Bottlenecks in the Freight Forwarding sector in West-coast Africa.

Master Thesis within International Logistics and Supply Chain Management

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To you all, Thank you!
Aida Ciro & Chakir A. Berrada
Abstract

**Problem** – The expansion of global trade and supply chain integration has put great emphasis on logistics, particularly in the intermediary sector, freight forwarders. Whilst in developed countries freight forwarders benefit from competitive markets and trade facilitating policies, this sector in West coast Africa exhibits low logistics performance levels. In order to address such issues, one needs to analyse the problem and identify the causes; this thesis focuses on identifying the bottlenecks in the freight-forwarding sector in west coast Africa.

**Purpose** – The main purpose of this study is to identify the bottleneck/s within the freight-forwarding industry in west coast Africa, namely: Angola, Cameroon, DR of Congo, Gabon, and Nigeria.

**Method** – This thesis employs a pre-study and case study method, to ensure sufficient collection of relevant material, taking into account the lack of research in this subject. We used the material obtained from the interviews and the secondary source, to structure our purpose, research questions, and to define the case of our study.

**Results** – The study concludes with a series of interesting findings; First, the activity of a Freight Forwarder depends on a series of factors that do not depend on the Freight Forwarder per se. And second, Freight Forwarders in order to accomplish their tasks, have access to services that are shared by all providers, and that are beyond their control. To conclude, the study identifies *infrastructure* as a major bottleneck in the Freight Forwarding sector.
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1. Introduction

Through the use of an inverted pyramid approach, this chapter will discuss the rationale behind the research, followed by a brief outline of the theoretical framework constituting the scientific foundations of this study. We follow with the statement of the purpose and the research questions. In the end of this chapter we will come to the outline of the thesis.

1.1. Background

“With the advent of global supply chains, a new premium is being placed on being able to move goods from A to B rapidly, reliably, and cheaply” (Arvis, Mustra, Panzer, Ojala, and Naula, 2007: I). Connections and trade of such international nature have created a physical Internet, placing much emphasis on logistics activities and capabilities where disparities amongst countries are still very high. The gaps can be explained in terms of a number of dimensions of logistics, with cost, timeliness and reliability featuring in the top three factors that rank the African continent as the least developed in terms of logistics capabilities. “The poor reliability, insufficient liability, high cost, and organization of the road transport industry (which in Africa bundles an average of 85 percent of freight) is a deterrent to trade; lack of coherent policies within the national transport markets have been a severe deterrent to freight transport security and jeopardize regional trade capabilities” (De Castro, 1993:26).

There is little doubt that international freight forwarders are recognized as key intermediaries in international trade. International (foreign) freight forwarders are the first intermediaries discussed in the international logistics chapters of major textbooks […] “Stock and Lambert point out that nearly every international company utilizes the services of a foreign freight forwarder” (Murphy, Daley, and Dalenberg, 1992:35) “Working on a margin of profit as slim as a dime, forwarders provide an array of services that help save shippers time, money and headaches. An exceptional forwarder can be a competitive advantage for the shipper trying to crack a difficult foreign market” (Muller, 1990:117). The importance of a Freight Forwarder takes a different dimension altogether, when Schramm introduces the concept of freight forwarders as ‘architects’ in managing international logistics chains. (Schramm, n.d.) The international freight forwarder has long been recognized as one of the key logistical intermediaries for facilitating cross-border trade. Because of their expertise in various aspects of cross-border trade, “International Freight Forwarders tend to be utilized by most companies, regardless of size, to facilitate their cross-border shipments” (Murphy and Daley, 2000:152).

Empirical basics obtained by a worldwide survey of the “global freight forwarders and express carriers who are most active in international trade” (Arvis et al., 2007: III), shed light into the poor state of African logistics in general, and that of Freight Forwarders in particular. “Today, getting a container to the heart of Africa—from Douala in Cameroon to Bangassou in the Central African Republic, still means a wait of up to three weeks at the port on arrival; roadblocks, bribes, pot-holes and mud-drifts on the road along the way; malarial fevers, and […] monkey-meat stews in the lorry cabin; hyenas and soldiers on the road at night” (The Economist, Oct: 2008).
This colourful depiction, replicable and confirmed with ease by several sources, exposes the low level of trade traffic within Africa, and the lack of international companies currently involved in some form of trade activity in the continent. With soaring transit times, divided and far-apart operators and multiple coordination failures, the freight-forwarding scene in Africa differs from that in Europe, North America, or South-East Asia. The services offered by intermediaries, such as Freight Forwarders, are severely affected and shaped by lack of standardized criteria and norms. “As a consequence, about fifty percent of commodity clearances in Douala (Cameroon) and Matadi (DR Congo) are handled unprofessionally. International shippers placing emphasis in transit time and fixed-known costs are relying on multinational transport operators for the organization of transport and insurance” (De Castro, 1993).

Following an extensive literature review, we identified gaps, not only in the field of intermediaries operations in Africa, but also in the challenges associated to this sector, particularly owing to conditions that are specific to a number African countries. Customs formalities, commercial procedures, and transit logistics are complex and inefficient; communications are poor. “Transport intermediaries at ports of entry and destination are the only secure beacons offering service and liability for freight in transit; their follow-up and control of surface inland transport are essential” (De Castro, 1993).

Solutions to such problems do not necessarily have to result in expensive and complex reforms; but they can only be implemented once the problems have been clearly outlined. Taking into account the increase in outsourcing, and the growth of upcoming African economies, such as the case of Angola, studying this link of the supply chain suddenly gains paramount importance. To an international organization that frequently ship to African destinations, from Europe or other continents, such failures within the freight forwarding sector, translate into very long transit times on their imports, poor quality, and lack of reliability.

This independent study places its focus on identifying any such constraints in the freight-forwarder section of West coast Africa. The study takes the case of France-based Bourbon Group – a specialist in offshore logistics services for the bulk products of industrial groups within a long-term contract relationship, and their import activities concentrated in the West coast African region. By analyzing the case of Bourbon group and the challenges they face concerning freight forwarding services, the study will endeavour to identify bottlenecks within this sector, attempt to apply the Goldratt’s Theory of Constraints five step model, and consequently put forward suggestions leading to an improved freight forwarder selection model.

At the time of writing, Bourbon Group used Bollore’ Group for all their freight-forwarding related activities in Western-Africa. KI, Purchasing Manager at Bourbon Group, addressed the issue of long lists of prohibited goods especially in the ports of Nigeria and Angola that Freight Forwarders themselves were not acquainted with, driving to extensive transit times on their imported goods. Bourbon Group, not having a specific freight-forwarder model tailored for the African continent, faced the dilemma of looking for alternative freight-forwarders, and even considered a change of its import activities altogether.

The reason behind this study is very simple; considering that the nature of the challenges
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existing in this sector in African countries, is grave and at a policy, infrastructure and intracontinental level, it could prove advantageous to an international company to obtain knowledge on the bottlenecks currently within the Freight Forwarding section, and using such information accordingly in decision-making or selection processes. “Whilst international companies can bring global knowledge, the support and optimal use of local operators and public agencies is crucial” (Arvis, et al 2007: 1). This could lead to improved freight forwarder selection, increased coordination and efficiency, hence better overall logistics performance and trade facilitation.

1.2. Theoretical perspective of the study

This section will briefly highlight the theoretical substance used to provide the foundations of the study, and serve as a framework for the following stages in the course of this research. The focus of the study is placed on the Freight Forwarding sector in West coast Africa, and the bottlenecks currently active within this sector. The later results in undesirable effects, such as long transit times, and poor quality of logistics procedures. Our subject can be understood relatively well through the employment of the following theories.

- Systems Theory
- Theory of Constraints

The rationale behind the choice of these two specific theories is shaped by the nature of two of the keywords of this study, namely: freight forwarders, and bottlenecks. The latter by definition are referred to as any resource whose capacity is equal to or less than the demand placed upon it. (Goldratt and Cox, 1993) It should be noted that, the terms bottleneck and constraints have been used interchangeably throughout the course of this study. The activity of freight forwarders, which by definition are referred to as “international trade specialist who can provide a variety of functions to facilitate the movement of cross-border shipments” (Murphy, Daley and Dalenberg, 1992: 35), is conditioned by various factors, some of which internal to the organisation (freight forwarding organisation) such as capacity, coverage, connectivity etc; and others external to the organisation, such are all of the institutions, or environmental factors. Taking into account the intertwined dependencies and relationships between such factors, both internal and external, we decided to view freight forwarders as a system.

By using the Systems Theory, “freight forwarders can be interpreted as a as a set of dynamic elements maintaining integrity via mutual interactions” (Lewis, 2005: 174). When applied to the Freight Forwarders case, the constituent elements can be any of the involved parties that physically or through regulations enable and affect the activity. To name a few, the elements of the Freight Forwarding system can be – not limited to however:

- The customs
- Infrastructure
- Government policies
- Transport company
- Port authorities
The underlying philosophy of the Systems Theory is primarily about focusing on the relationship between the component parts, rather than dismantling a system into its comprising elements. The emphasis on the relationships, leads to the next finding, whereby the value of a system is not limited to the immediate sum of its constituent parts. It is rather the added value that results from the relationships, and what emerges as a result. (Lewis, 2005) Based on the great importance attributed to the relationships, and the ‘wholeness’ of a system, it can therefore be concluded that “the parts and the whole exist in reciprocity – serving mutual survival – and must be studied and understood as such” (Lewis, 2005: 174). By viewing the Freight Forwarders as a system, through the application of the system theory, we can acknowledge the influence and consequent importance of the constituent parts of such system. Also, we can establish that the existence of bottlenecks within the freight forwarding system is conditioned and dependent on such factors. When applying the systems theory, the main objective is to identify the system parts, common goals, underlying relationships and constraints. As a result, we will be in a position where we can gain insight into the constraining elements in the freight forwarding system.

Considering the purpose of this study, to be further elaborated in the next section, such insight into the relationships of the system is indispensable, and will be furthered by the application of our second theory: the Theory of Constraints. The Theory of Constraints (TOC) is a management philosophy introduced by Dr Eliyahu M. Goldratt made famous through a novel called the Goal (1993). TOC constitutes the core concept conveyed through the novel, which as a philosophy recognizes that the maximum overall performance of a given system, is highly dependent on the constraint of that system. As implied by the title, any performance measurements or achievements, are to be viewed in terms of the organization’s or a given system’s goal. The underlying idea of the Theory of Constraints is that constraints, by definition, limit the performance of any system. “We can only get continuous maximum performance from a system by driving the system against its constraints” (Siha, 1999:257).

Goldratt’s quest for identifying a model that can be replicable and suited to any system, providing managers with a continuous business improvement tool, resulted in a five step process:

I. Identify the system’s constraint.
II. Decide how to exploit the system’s constraint.
III. Subordinate everything else to the above decision.
IV. Elevate the system’s constraints.
V. If in any of the previous steps a constraint is broken, go back to step I.

Goldratt developed this model with manufacturing in mind, but that has not affected adaptations for a potential application to services in general. Based on the type of activities Freight Forwarders offer, and the list of functions they fulfill, it can be established that Freight Forwarders qualify as services. Considering that the freight forwarder system is an open one as a result of the interaction with external factors, it can be concluded that the restrictions within this system are expected to be of both a physical and regulation nature. Whilst Goldratt looks at a system in a manufacturing context, where constraints are of a (most likely) temporary nature, and can therefore be elevated, the difficulty in a TOC application in services systems, lies in the fact that, depending on the type of constraint, elevation can be questionable. Such restriction within the model itself can also restrict the appli-
cability of the model in itself.

1.3. Purpose and explained Research Questions

During the course of this research, thorough literature review on the subject of Freight Forwarders in West coast Africa was conducted. It became evident that, the topic of Freight Forwarders in general has not received much academic attention; in those few cases when it has been addressed, it has primarily been with an emphasis on Freight Forwarding selection methods. When placed in an African context – West coast Africa to be precise, the discourse on Freight Forwarders and bottlenecks within this system, exhibits signs of gaps in coverage by previous literature. Taking into account that West coast Africa is home to some of the fastest growing African economies, for instance Angola, Nigeria, primarily due to the oil industry, we believe it is very important to address the issue of Freight Forwarders and possible constraints. The latter, as it has been proved, has a great impact on import and export procedures to and from such countries. Based on this rationale, we have therefore established the purpose of our study to be as follows:

Identify the bottlenecks in the Freight Forwarder sector in West coast Africa.

Through this purpose, we hope to contribute to the existing literature, and most importantly, provide findings to the company at the centre of our case study, Bourbon group, and similar companies. It is hoped that such findings will have a practical application to improve the understanding of the Freight Forwarder market in West coast African countries, and serve as suggestions or recommendations for improvement within this sector. Appreciating the complexity of the subject, as a result of the number of actors involved, and the setting in West coast Africa, we believe it is imperative to the accomplishment of the purpose, to develop the following research questions. They are both of explorative and normative nature, serving to identifying what works best in the African case, and ensuring adherence to the main purpose of this study.

For the purposes of this study, we are considering the Freight Forwarding sector as a system, where by the resulting activity is enabled through a collection of policies, regulations, and interaction of a number of institutions. For instance, Freight Forwarders interact with the customs, the transport companies, and are subjected to a number of domestic and international regulations. Their performance, depends on issues such as:

- “Logistics operational environment”
- Quality of infrastructure
- Effectiveness and efficiency of processes
- Level of competence of professions
- Evolution of factors over the past 3 years” (Arvis et al, 2007).

Depending on the results, we shall be able to establish the answer to our first research question: Does it really matter which Freight Forwarder you choose when importing goods into West coast Africa? By establishing if all freight forwarders operating in West coast Africa are subjected to the effects of such influencing factors, the nature of the constraint can then be identified. Appreciating that the Freight Forwarding sector is a complex area in logistics due to a number of relationships and interactions, we believe it is important to express the Freight Forwarding sector as a system. As a result, we shall have facilitated the process of the The-
ory of Constraints application. This leads to the second research question: How can we dismantle Freight Forwarding activity based on a system approach? Freight Forwarders are different in the way they operate and in the way they deal with business, a Freight Forwarding selection could be considered as a service supplier selection, thus having the appropriate method to choose a Freight Forwarders could constitute a part or all the solution to importers/exporters problems. This leads to the third research question: Does an improved Freight Forwarder selection method offer solutions to some of the issues addressed by international companies currently involved in export-import activities in Africa? According to the theory of constraint that we will be addressing in this paper, knowing the constraint or constraints is the ultimate part of problem solving. Identifying the constraint will also help us answer a very essential question, namely: ‘Are Freight Forwarders responsible of the inefficiency of the import/export procedure?’ This leads to our fourth research question: What is the constraint that makes importing/exporting goods to West coast Africa inefficient?

Lastly, the final research question this study raises concerns the elevation of a constraint within a given system: What happens if a constraint cannot be elevated within a Freight Forwarder procedure?

1.4. Disposition

Chapter II – Research design and Method
In this chapter we shall present a brief explanation of possible research designs, complemented by a rational on the choice of design and method utilized to carry out this study. Details on the realization of the study, and the validity and trustworthiness of the study will also be highlighted.

Chapter III – Introduction to Bourbon Group and Bollorè: a pre-study case
This chapter will focus on the introduction to the company at the centre of our pre-study: Bourbon Group, and their Freight Forwarding providers, Bollorè. This section is important considering that both the purpose and the research questions were shaped based on the material obtained from the interviews and the company itself.

Chapter IV – Theoretical Framework
In this chapter we shall present the two theories that will constitute the scientific backbone of our study: the Systems Theory, and the Theory of Constraints. In an inverted pyramid approach, we shall touch upon trade intermediaries in general, and freight forwarders in particular. Following the concept of an intermediary: freight forwarder, is explained within a supply chain context. In conclusion, we look at models for logistics, the definition, types, and construction. This knowledge will be applied in the Analysis chapter (VI)

Chapter V – Empirical Presentation
In this chapter we shall present the empirical data we have obtained on the Logistics Performance Index concept, Trade barriers in the countries under study, a detailed presentation of the current situation in each country in a system approach. We shall also succinctly
summarize the main points touched upon during our numerous interviews and correspondence with the key informant within the Bourbon group.

Chapter VI – Analysis
In this chapter we shall apply the theoretical model generated from the two theories presented in Chapter 3, to the data we possess on each of the five countries. Through this application, we shall be able to provide answers to the research questions presented in the introduction of this study. We shall analyze each research question individually based on the empirical data, and the theories of this study.

Chapter VII – Conclusions
Based on the analysis of the empirical data, and the answers to the research questions, in this chapter we shall present the final verdict on the research questions, and aim to achieve the fulfillment of the purpose of this study.

Chapter VIII – Recommendations
This chapter will utilize the findings from the analysis, the final conclusions, and the underlining theoretical material of this study, to structure some findings in the form of recommendations that can find a generic application in the industry similar to that of the case study. Alternatively, it can serve as a foundation for future studies within this realm.
2. Research design and method

In this chapter we shall present the research methods used in order to meet the purpose of this study. First, we explain our choice of scientific perspective, followed by the research approach and research method. We outline the process of study realization, and conclude with a brief discussion on the possible limitations of this study, and the issue of validity and trustworthiness.

2.1. Scientific perspective

“Methodology deals with how we gain knowledge about the world” (Naslund, 2002: 322). Based on the theory of science, there are two main perspectives that a researcher can apply to a study: the positivistic and the hermeneutic perspective. Judging from the main attributes behind each perspective, and the way they view knowledge, the two perspectives at hand are in a displacing relationship. The positivistic approach implies that “reality is considered to be objective, tangible and fragmentable . . . Research findings in the positivist tradition are considered value-free, time-free, and context independent, with the general agreement that causal relationships can be discovered” (Gammelgaard, 2004: 479). Based on this perspective, conclusions can only be built on logic and senses, through data obtained by means of measurement. Considering the highly scientific approach of the positivistic perspective, criticism on the latter tackles its strict and restrictive nature. The hermeneutic perspective is based on observation and interpretation in seeking to determine the truth. Its data gathering methods are seen as natural, and take place over a long period of time. This perspective places great emphasis on communication, considering this is the tool the researcher has to obtain information. The following table by Amaratunga, Baldry, Sarshar and Newton (2002) highlights the contrasting strengths and weaknesses of each perspective.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positivist</td>
<td>- They can provide wide coverage of the range of situations</td>
<td>- The methods need to be actionable and artificial</td>
</tr>
<tr>
<td></td>
<td>- They can be fast and economical</td>
<td>- They are not very effective in understanding processes or the significance that people attach to actions</td>
</tr>
<tr>
<td></td>
<td>- When statistics are aggregated from large samples, they may be considered relevant to policy decisions</td>
<td>- They are not very helpful in generating theories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Because they focus on what is, as what has been recently, that make it hard the policy makers to infer what changes and actions should take place in the future</td>
</tr>
<tr>
<td>Hermeneutics</td>
<td>- Data-gathering methods seen more as natural than artificial</td>
<td>- Data collection can be tedious and require more resources</td>
</tr>
<tr>
<td></td>
<td>- Ability to look at change processes over time</td>
<td>- Analysis and interpretation of data may be more difficult</td>
</tr>
<tr>
<td></td>
<td>- Ability to understand people’s meaning</td>
<td>- Hard to control the past, present and future of research processes</td>
</tr>
<tr>
<td></td>
<td>- Ability to adjust to new issues and ideas as they emerge</td>
<td>- Policy makers may give low credibility to results from qualitative approach</td>
</tr>
</tbody>
</table>

Figure 1: Positivist versus Hermeneutics. Sourced from (Amaratunga, Baldry, Sarshar and Newton, 2002: 20)

This study is concerned with knowledge seen through the logistics lens, it will therefore focus on research approaches, and methods within the logistics spectrum. While Kovačević and Spens (2005) “found that articles in business logistics rarely discuss their research approach, they claimed
that the indicators in their framework could also detect underlying research approaches if they are not stated explicitly” (Spens and Kovacs, 2005: 378). Researchers and scholars like Gammelgaard, Mentzer and Kahn have repeatedly referred to the positivistic approach as the predominant within the field of logistics. Considering that most of logistics literature research results are produced almost entirely within a positivistic paradigm, Gammelgaard defines this approach as the dominating school in logistics. “Although few academic journal articles are found in the field of business logistics that explicitly state the research approach in use (Spens and Kovacs, 2005: 375), Kovacs and Spens (2005) not only confirm positivism as the most commonly used research approach in general, but they identify deductive positivism as a predominant research approach in particular.

In order to establish which perspective applies to our study, it is important to look at the purpose, and the nature of the outcome we expect this study to produce. The purpose of this thesis is to identify the bottlenecks within the freight forwarder selection operating in West coast Africa, resulting into knowledge that can be used by international organisations engaging in import-export activities. Considering that we are using a case study, our main sources of information and knowledge will be the organization in the centre of our case study, Bourbon, and their affiliate in Africa, Bolloré group. We expect to extract information and subsequent knowledge on the topic through interaction, communication and observation. The outcome cannot be quantified in a deterministic way, in that it resulted from interpretations of the involved parties. Therefore, based on the specifics of our study, and the fore-mentioned traits of each perspective, we believe the hermeneutic approach to be the most appropriate one to accomplish the purpose of this research.

2.2. Research approach

“A research approach is defined as the path of conscious scientific reasoning, and while following distinct paths, have the common aim of advancing knowledge” (Spens and Kovacs, 2005: 375). There are three general approaches in research, through which a research can obtain new knowledge, namely the inductive, deductive and abductive research approaches. The inductive research approach is a theory development process that starts with observations of specific instances and seeks to establish generalizations about the phenomenon under investigation. The deductive research approach is a theory testing process, which commences with an established theory or generalization, and seeks to see if the theory applies to specific instances (Hyde, 2000). “A third, less known, abductive approach stems from the insight that most great advances in science neither followed the pattern of pure deduction nor of pure induction: Abduction is generally understood as reasoning from effect to causes or explanations” (Spens and Kovacs, 2005: 374).
In order to identify the approach that suits best a specific research study, Spens and Kovacs suggest a framework of several indicators to distinguish between the three approaches:

1. "The starting point of the research process;
2. The aim of the research; and
3. Whether the research process commenced with theoretical advances or an empirical study;
4. Whether the research aimed at developing or testing theory;
5. Which research methods were used" (Spens and Kovacs, 2005: 375).

Our starting point is some basic theoretical knowledge, that through real-life observations, aims at obtaining knowledge that can be generalised for applications within the field of study at hand. This research mainly consists of empirical study that aims at developing a theory through qualitative research methods, later to be elaborated in the course of this chapter. Based on this rationale, we believe that the inductive approach suits best the nature of our research study. The purpose to identify the bottleneck/s within the freight forwarder system in West coast Africa, is not an isolated phenomenon, hence it is based on some existing knowledge, which will in turn be developed through analysis of current occurrences.

2.3. Method approach

When conducting a research study, there is a choice of several research methods, with two most prominent ones: qualitative research method and quantitative research method. According to Yin (1994), research strategy should be chosen as a function of the research situation. "Each research strategy has its own specific approach to collect and analyse empirical data, and therefore each strategy has its own advantages and disadvantages" (Amaratunga, et. al. 2002: 17). In order to establish which method is more suitable to our research study, it is important to distinguish between the two. The qualitative method concentrates on words and observations to express reality and attempts to describe people in natural situations. "In contrast, the
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A quantitative approach grows out of a strong academic tradition that places considerable trust in numbers that represent opinions or concepts” (Amaratunga, et al. 2002: 16).

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquiry from the outside</td>
<td>Inquiry from the inside</td>
</tr>
<tr>
<td>Underpinned by a completely different set of epistemological foundations from those in qualitative research</td>
<td>An attempt to take account of differences between people</td>
</tr>
<tr>
<td>Are simply different ways to the same end?</td>
<td>Aimed at flexibility and lack of structure, in order to allow theory and concepts to proceed in tandem</td>
</tr>
<tr>
<td>Involves the following of various states of the scientific research</td>
<td>The results are said to be, through theoretical generalization, “deep, rich and meaningful”</td>
</tr>
<tr>
<td>The results are said to be “hard generalisable data”</td>
<td>Inductive – where propositions may develop not only from practice, or literature review, but also from ideas themselves</td>
</tr>
<tr>
<td></td>
<td>An approach to the study of the social world, which seeks to describe and analyze the culture and behavior of humans and their groups from the point of view being studied</td>
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Figure 3: Qualitative versus Quantitative. Sourced from: (Amaratunga, et al. 2002: 16)

[…] In general, qualitative researchers are more interpretive and subjective in their approach. This anti-positivist approach states that the world is essentially relativistic and thus one must understand it from the inside rather than the outside. It can only “be understood from the point of view of the individuals who are directly involved in the activities which are to be studied” (Naslund, 2002).

“Qualitative research is generally gaining recognition in logistics resulting from the entrance of behavioral approaches in the discipline” (Spens and Kovacs, 2005: 383). Traditionally, “quantitative methods were often linked to deductive and qualitative to inductive research approaches” (Spens and Kovacs, 2005: 383). However, “qualitative research is not inductive per definition; also deductive research can employ qualitative methods” (Spens and Kovacs, 2005: 383). Spens and Kovacs (2005) argue that the word qualitative implies an emphasis on processes and meanings. This is important considering that the study relies considerably on operational processes of freight forwarders as well as selection processes.

This thesis will employ the qualitative research method for the reasons that follow:

I. It takes a look at the phenomenon from inside.
II. It considers the differences between people, processes or settings.
III. The result aims to be a theoretical generalization, to find further application.

The main primary methods used to obtain information for the purposes of this study are:

- Analyzing text and documents; and
- Interviews.
2.4. Applied method

This thesis will apply the use of a case study, that of the Logistics Performance Index (LPI). As defined by Yin (1994), “the case study is a research strategy which focuses on understanding the dynamics present within single settings” (Yin 1994, p. 6). A case may be a person, group of people, organization, process, or information system. “A case study examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or few entities (people, groups or organizations)” (Cepeda and Martin, 2005: 853).

Yin notes that the case study is particularly suitable when the research questions are “why” and “how” as opposed to the survey strategies research questions of “who, what, where, how many and how much”. In addition, Yin (2003) concludes that the case study as a research strategy is preferred when we are examining contemporary events. “Furthermore, a case study can be used to accomplish various aims: from providing a rich description to testing or generating theories” (Naslund, 2002: 330).

A case study strategy, as Cepeda and Martin (2005) explain, “is well suited to capturing the knowledge of practitioners and developing theories from it. Before this formalization takes place, case studies could document the experiences of practice” (Cepeda and Martin, 2005: 852).

Following are the characteristics of a case study, as identified by Cepada and Martin (2005):

I. “Phenomenon is examined in a natural setting.
II. Data are collected by multiple means.
III. One or few entities (person, group or organization) are examined.
IV. The complexity of the unit is studied intensively.
V. Case studies are more suitable for exploration, classification and hypothesis development stages of the knowledge building process; the investigator should have a receptive attitude towards exploration.
VI. No experimental controls or manipulation are involved.
VII. The investigator may not specify the set of independent and dependent variables in advance.
VIII. The results derived depend heavily on the integrative powers of the investigator.
IX. Changes in site selection and data collection methods could take place as the investigator develops new hypotheses.
X. Case research is useful in the study of `why" and `how" questions because these deal with operational links to be traced over time rather than frequency or incidence” (Cepeda and Martin, 2005:853).

We have chosen to use the case study of LPI for various reasons; first, our research study tends to be of a descriptive nature, and second the purpose in itself aims at answering ‘how, and what’ questions. Through this study, we aim at gaining insight into the factors that affect the operations of freight forwarders in Africa through interviews and documents, hence highlighting the factors that an organization has to consider when planning to select freight forwarders. And lastly, this research study, has made use of both previous literature on the subject, and knowledge obtained through the analysis of current events. Further insight into the case study of LPI, shall be presented in chapter 5 (Empirical presentation).
2.5. **Realization of the study**

In order to accomplish successfully the purpose of this study, and answer the research questions, empirical material has been gathered, and processed during the course of this research paper, in the respective chapters. The structure of the paper, and the circle-fashion-interrelated chapters, ensure that, the empirical material is appropriate for answering the research questions, hence providing accurate conclusions, within the pre-defined case. The empirical material used for the purposes of this study was obtained through the forms of interviews, and secondary data obtained from our case study. The interviews were conducted with a Key Informant from within the company in the focus of our pre-study case. Whilst the secondary data was obtained from the Logistics Performance Index 2008, originally developed from the World Bank Group. More information on the interviews, and its results, is provided in chapter 3. Whilst the Logistics Performance Index is further explained in Chapter 5.

2.5.1. **Analysis and interpretation of case study data**

In order to prepare for the analysis, we collected the material obtained from the interviews, and analysed it. As a result, we found significant material to construct the purpose of the study, and consequently research questions. We have therefore chosen not to give the transcribed interview material, considering that we are not using it in the text through direct quotations. The data obtained from our case study, the Logistics Performance Index, and additional secondary material provided the foundations for the application of our theoretical model, further explained in Chapter 4. The following figure illustrates the process of data gathering, its use, and how this material obtained from initial research, contributed to the drafting of the purpose, the research questions, and subsequent empirical findings.

![Figure 4: The use of empirical material.](image)

2.5.2. **The pre-study: Bourbon Group and Bolloré**

Considering that the issues we aim to examine, were initially addressed by a real company, we decided to opt for a pre-study – the Bourbon Group, and a case study – the Logistics
Identifying the bottlenecks in Freight Forwarding in West Coast Africa by Berrada and Ciro

Performance Index. The pre-study is built around Bourbon group, and the information they provided, which served as the founding grounds of the purpose and research questions of this study.

The case study, the Logistics Performance Index, provides secondary material and important concepts to enable the application of the theoretical model, generated and further explained in Chapter 4.

This study focuses on the activity of freight forwarders in west coast Africa, namely: Angola, Cameroon, DR of the Congo, Gabon, and Nigeria, when viewed as a system, where it identifies actors, and relationships. It therefore encompasses any actors that affect this activity within the port, whether as point of origin or destination. It does not encompass airports, or other similar establishment. The following scheme summarises the case of this study:

2.5.3. Problems with gathering of empirical material and Limitations

The challenges we faced in the course of our research were very much related to the subject of our research: Africa, for a number of reasons:

First, as we confirmed, there is limited research and previous literature available on Africa in general, and logistics and supply chain in an African context, in specific. Therefore, we relied heavily on a limited number of sources, particularly in the process of gathering and processing the case study related information.

Second, taking into account the infrastructural changes, access to operators in the field proved unsuccessful. Possible methods of correspondence that worked for European counterparts, failed in the case of Africa. We believe that our physical presence in the countries under study could have resulted into more successful correspondence with freight forwarders operating in the region, and also more empirical material obtained from observation.

Third, there is a lack of published material from African sources in terms of subject inter-related to the focus of our study: bottlenecks within the intermediary section of the supply chain. Inevitably, this study does not rely on previous examples within this field; instead it establishes a new practice by applying the theory of constraints in a service context.

Fourth, considering the time restrictions, it was not possible to focus on more countries in order to produce a more complete picture of the state of freight forwarders and bottlenecks in the African continent.

2.5.4. Trustworthiness of the study

Should any researchers attempt to replicate this study, they should be able to obtain the same findings. Taking into account this case relies considerably on data, it is expected that through exact replication of the theoretical material and material from the case study in use,
LPI, the researchers should be able to obtain the same findings. The LPI relies heavily on data and quantitative research methods, therefore the interpretations drawn on such data, by using the two chosen theories, should bear significant similarity.

Any matters that are subject to interpretation, and description – not particularly related to or deriving from the theoretical framework, might represent a challenge in terms of replicability of method and results.

This study has attempted to achieve a high level of trustworthiness by being very clear and transparent in terms of what material is being used, what method, and why.

In terms of validity, any empirical material gathered was in accordance with the pre-selected methods and approaches. Questions to the interviewee were clear, composed carefully so not to lead to a particular answer, hence preventing bias.

In terms of generalising – can we really generalise the findings? Yes, the data that has been analysed is obtained from reliable sources, and the interpretation, generic as it is, is backed up by several sources. However, it is the responsibility of the receiving end of the information to ensure generalization in the right context, that is to say: studying the freight forwarding sector and its bottlenecks in Nigeria, Angola, Cameroon, Gabon and DR of Congo, through the application of two the two chosen theories, and relying on LPI data from 2007 and onwards.

2.5.5. Criticism of the method chosen

Following a thorough research, we consider the inductive research, and the use of a case study as well suited to achieving the purpose of our research study.

Interviews with operators in the field could have proved beneficial to our study, however attempts to contact representatives from Bollore Group did not materialise in a fruitful correspondence.

Also, due the circumstantial restrictions, we were unable to use observation as a method for collecting empirical material. Access to the private and public sector, as well as operators in the freight forwarding industry would have enabled us to gather additional material especially on the DR of the Congo, where there is a considerable lack of material.

On a last note, as previously stated, the data from the DR of the Congo is very restricted, therefore, some parts of the theoretical model can not be fully applied to this particular case.
3. **Pre-study: Bourbon Group and Bollorè**

This chapter will focus on the introduction to the company at the centre of our pre-study: Bourbon Group, and their Freight Forwarding providers, Bollorè. This section is important considering that both the purpose and the research questions were shaped based on the material obtained from the interviews and the company itself.

### 3.1. Introduction to the pre-study

We believe it relevant to devote this section to the understanding of our pre-study. To do so, we are going to introduce the company “Bourbon Group” as well as their logistics provider for their operations in West coast of Africa, ‘Bolloré Group’. It is important to note that the material obtained from Bourbon, constituted a starting point for our research process, shaping the purpose of this study and five research questions.

The data used for this section has been sourced through our key informant within Bourbon Group, the Corporate Purchasing Manager, KI. Some additional material has also been sourced from the company’s official website.

### 3.2. Bourbon Group’s profile

Bourbon Group is a major international player in marine services and offers oil and gas clients worldwide, a comprehensive range subsea services. Bourbon Group established its presence in over 28 countries with a staff of 5,700 professionals, and a directly owned fleet of 293 vessels. Bourbon Group is also engaged in protection of the French coast, with vessels chartered by the French Navy, and it is developing its bulk transport activity for industrial groups.

The group includes two divisions the Offshore Division and the Bulk Division:

- **The Offshore Division** is organized around two activities:
  - Marine Services, incorporating offshore oil support vessels and assistance, salvage and coastal protection;
  - Subsea Services, incorporating Inspection, Maintenance and Repair services for subsea oil fields.
- **The Bulk Division** transports solid raw materials on all the oceans in the world and to all destinations worldwide. It offers a comprehensive range of logistics services to major international companies, using its own or chartered vessels. (Bourbon Group official site).
The high political unrest and different risk that surrounds the West coast African market, still accounts for a substantial part of Bourbon’s activities. The increase in the activity of this Division in Africa was due to Bourbon’s strong presence in two principal growth markets, Angola and Nigeria (Bourbon Group official site). Despite the problems related to operations in that area, particularly in terms of security in Nigeria, the activity of the international oil companies associated with local national companies continues to grow.

3.3. Bolloré Group profile

To sustain its growth in this market the company has chosen one of the major freight forwarders in Africa “Bolloré Group”.

Bolloré Africa logistics is the biggest transport and logistics operator in Africa, and for a number of years has been expending in those regions where its historical connections were fewer: for instance southern and western Africa. The company is a leading player in the stevedoring business in Africa and it is also engaged in the leasing of ports, which it usually takes on in partnership. It operates in particular the container terminals at Abidjan in the Ivory Coast, Douala in Cameroon, Tema in Ghana and Lagos-Tincan in Nigeria (Bolloré Africa Logistics official website).

The Group takes care of all administrative and customs clearance for its customers, during all stages of transportation; it forwards goods by road or rail to their final destination, often using rail networks as well as a dense network of agents in the inland countries. It also has major storage facilities for exported agricultural products and major mining and oil projects in Africa (Bolloré Africa Logistics official website).

3.4. Correspondence with Bourbon Group KI

Our research in the field of bottlenecks in Freight Forwarding procedure in countries of West Coast Africa, took shape as it is today, after a number or discussions with the company at the centre of our study: Bourbon Group.

Starting from February 2009 to date - May 2009, we have engaged in regular correspondence, through means of telephone and email, with our Key Informant (KI) within Bourbon Group.

Initially, KI explained the nature of the problem Bourbon Group were experiencing in their import procedure into Angola, Nigeria, Cameroon, Gabon and the DRC. Long transit times, average quality services at the port, constituted the main concern for the company. During our first contact with the company the problem was stated as follows:

“Bourbon main business managed from Europe is located in Western Africa: Gabon – Congo – Angola – Nigeria […]. We need to send in those countries some spare parts or consumables for our vessels which we cannot buy locally. Shipments in those locations are always complicated due to local procedure and
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...prohibited goods. Our main Freight forwarder is Saga / SDV in those countries (we utilize a hub in France) with average result (depending on the countries) and always too long transit time.”

KI – Corporate Purchasing Manager for Bourbon Group

Clearly the company’s problem starts once the goods arrive to Africa, which is from the port of destination to the point of destination. The problem could be anywhere within the system from the time the goods arrive to one of the ports to the time they arrive to the consumption point. The company also stated that in 90 percent of the cases the goods are to be consumed in the country where they arrive and that they do not need to be shipped to any further landlocked country.

In order to establish the depth of our research, the scope, and the nature of the outcome, we have regularly engaged in discussions, and posed the following questions to KI. In response to Email of February 24, 2009, we put forward the following questions:

- It would be helpful to know, if you already have an Evaluation Model for selecting a Freight Forwarder, for any of the continents, and whether they are continent specific, or you adopt the same model.
- Consequently we would like to know if you already have any such model for Africa. What criteria do you use?
- If you do not have one, we believe it would be beneficial to your business to have a region-specific evaluation model, which could assist you in the decision-making process regarding selection of Freight Forwarders.
- Considering that you mention the region of Western Africa, consisting of five countries, namely: Angola, Cameroon, Congo, Gabon, and Nigeria, we need you to specify, if you want to focus on the region as a whole in general, or a country in particular.
- With regards to your presence in the region, it would be of great help, to know more details related to your experience with SAGA SDV, or other Freight Forwarders, the type of freight, etc.
- Our question regarding the Freight Forwarders is, whether you want to focus on Freight Forwarders in general, or an aspect in particular; i.e. Transit time.
- We appreciate that Freight Forwarders services might slightly vary depending on the continent/region; please edit the list based on what your requirements from a Freight Forwarder are.

Based on the answers we received and discussed over the phone with KI, we shaped:

- The focus of the study as: Five countries in West Coast Africa
- Draft Purpose: Build an evaluation model for Freight Forwarder Selection in West Coast Africa.

Based on the reviewed literature, we confirmed that the question of freight forwarders in this region, or even in the most part of the African continent, was not only a matter of choosing the right freight forwarder. Instead, figures showed a series of elements involved starting from government driven over-regulation, to custom and border related inefficiencies and corruption.
As a result, we considered exploring the bigger picture, to understand the extent of constraints within this sector.

- Have you ever dealt with Bollore Group’s Competitors?
- Was Bollore chosen because it has the largest coverage, or because of the price factor?
- Have you considered dealing with local Freight Forwarders, rather than International FF, considering that the local freight forwarder’s expertise in import rules and regulations and customs clearance is what differentiates a suitable one from others?
- Are you interested in lists of local freight forwarders, or International ones?
- Are you familiar to Swift Freight International concept?
- Are Nigeria, Cameroon, Gabon, and Angola, points of entrance into Africa where you connect to other parts by road transport, or points of consumption?
- Have you ever used local freight forwarders?
- Could you please give us an example of a freight forwarding procedure in a European port, and how that is different compared to Western Africa?

Following the reply and discussion on the above-listed questions, and extensive literature review on trade barriers and doing business in West Coast Africa, we revisited the draft of our purpose, shaping it into the purpose as it is presented in the Introduction. The research questions help highlighting important trends and process-insights into the sector of Freight Forwarders in the region.

Further, we prepared more questions regarding technicalities of import and export procedures in our focus region. In order to find out the disparities in terms of cost and time, specific to our focus region, we decided to compare it to the standard cost and time indicators of import/export procedures of any European port the company dealt previously.

**European import procedure scenario**

- Have you recently imported/exported goods into/from a European country?
- What were the port of origin, and the point of destination?
- What were the goods you were importing/exporting (if possible to state them)?
- Were you using an International Freight Forwarder, i.e. Bollore Group?
- How many days did it take to travel between these two points?
- How long did it take for the custom clearance?

**African import procedure scenario**

I. As you explained to us, you use five countries in Western Africa from where you import.
II. What were the goods you were importing (if possible to state them)?
III. How many days did it take to travel between the two points: origin to destination, i.e France to Nigeria, Angola etc.?
IV. How long did it take for the custom clearance?
V. What was the expected transit time? What was the actual transit time?
VI. Were you satisfied with the quality of the service you were offered?
VII. How often do you import into these countries?
VIII. Is the cost of a single procedure in i.e. custom clearance or any freight forwarder procedure in Angola, comparatively different to that of a European port?

The correspondence with Bourbon Group, provided us with a very good insight into the challenges of Freight Forwading sector in the west coast African region. Based on this material, we shaped the purpose of this study, and the research questions, which could in turn prove surprising for Bourbon. This material also assisted us in identifying the type of literature suited to this study.
4. Theoretical framework

In this chapter we shall present the two theories that will constitute the scientific backbone of our study: the Systems Theory, and the Theory of Constraints. In an inverted pyramid approach, we shall touch upon trade intermediaries in general, and freight forwarders in particular. Following the concept of an intermediary: freight forwarder, is explained within a supply chain context. In conclusion, we look at models for logistics, the definition, types, and construction. This knowledge will be applied in the Analysis chapter (V).

"If we need synchronised efforts," I continue, "then the contribution of any single person to the organisation’s purpose is strongly dependent upon the performance of others."

[...]: "If synchronised efforts are required and the contribution of one link is strongly dependent on the performance of the other links, we cannot ignore the fact that organisations are not just a pile of different links, they should be regarded as chains."

"Or at least a grid," he corrects me.

"Yes, but you see, every grid can be viewed as composed of several independent chains. The more complex the organisation – the more interdependences, between the various links – the smaller number of independent chains it’s composed of."

[...]: "the important thing is you’ve just proven that any organisation should be viewed as a chain. I can take it from here. Since the strength of the chain is determined by the weakest link, then the first step to improve an organisation must be to identify the weakest link" (Goldratt and Cox, 1993: 328).

4.1. Introduction

Time has ceased, ‘space’ has vanished. We now live in a global village...a simultaneous happening”(Christopher, 1998:127). Whilst Marshall McLuhan was very visionary and accurate in his prediction back in 1967, it should also be noted that, in the discourse of a global market, where distances have been made an obsolete determining factor, the seamless and smooth operations of a supply chain are still subjected and influenced by an array of factors tied to the location from where the firm is operating. "Whilst the logic of globalisation is strong, we must recognise that it also represents challenge” (Christopher, 1998:127). On a more practical note, take the example of a multinational company, i.e Bourbon; their base is in France, and being in the business of maritime offshore of oil and gas industry, their operations span across the West African coast. The company has to regularly import certain goods to different ports in West coast Africa, and the experience of the freight forwarding procedure in these ports has proved challenging resulting in very long transit times, and average quality.

As Martin Christopher explains the challenges can be classified into two groups: “firstly, world’s markets are not homogeneous”(Christopher, 1998), which is to say that regulations, policies, infrastructure and all the associated socio-economic and political factors vary in
4.2. The Systems Theory

The choice to apply the system theory to this study is to a great extent conditioned by the fact that the challenge being addressed concerns logistics. Taking into account that logistics is viewed as a system composed of several constituent parts, this approach provides suitable theoretical grounds to fragment the problem at hand.

The Systems Theory is the ensuing work of the Austrian biologist Ludwig von Bertalanffy, initially developed in the 1930s. Originally, Bertalanffy named his idea “Allgemeine Systemlehre”, later to be inaccurately translated into English as “General System Theory”. The focus of the theory is on the relationships and consequent arrangement, between the different constituent parts of a system. “Such relationships are fundamental to the concept of a system, considering that it is what forms the ‘whole’, and are in place to drive the system towards the accomplishment of a common, overall goal” (Desouza, Chattaraj, and Kraft, 2003: 129).

“In Systems Theory a system defined as a set of dynamic elements maintaining integrity via mutual interactions” (Lewis, 2005: 174). Bertalanffy was aware of the differences distinguishing operating systems from one another; but he also believed that there was a general set of laws to rule the system as a concept, unconditionally of the differing constituent elements. “Although diverse disciplines encounter systems differently, general principles apply” (Lewis 2005: 174).

Gregson (2007) looks at the system as “an idea that is addressed, not to an individual phenomenon, but to the total pattern of phenomena that create an environment and a state of being for a given process” (Gregson, 2007: 151). Based on the system concepts, Gregson notes that “optimum decisions cannot be made on the basis of individual functions alone because of the complex inter-relationships between functions; decisions that are made within the company should be concerned with the final outcome, not with individual phenomenon along the way” (Gregson, 2007:151).

The underlying philosophy of Systems Theory is primarily about focusing on the relation-
ship between the component parts, rather than dismantling a system into its comprising elements. The emphasis on the relationships, leads to the next finding, whereby the value of a system is not limited to the immediate sum of its constituent parts. It is rather the added value that results from the relationships, and what emerges as a result (Lewis, 2005). Based on the great importance attributed to the relationships, and “the 'wholeness' of a system, it can therefore be concluded that the parts and the whole exist in reciprocity – serving mutual survival – and must be studied and understood as such” (Lewis, 2005: 174).

Bertalanffy’s theory is characterised by three core distinct traits: “first, he revived synthetical thinking; the type of thinking that puts things together after having put them apart. Second, on an ontological level, he advocated perspectivism, that is, he did not consider general rules as abstract schemes that subordinate phenomena” (Hofkirchner, 2005: 1).

These traits can also be summoned as what Bertalanffy emphasised as fundamentally important within the theory:

- “Synthetical, but without denying the role of analyses
- Realistic, but without denying the role of constructions
- Normative, but without denying the role of descriptions” (Hofkirchner, 2005:2).

Systems, as defined and explained in terms of fundamental underlying and differentiating principles from other concepts in literature, can be open or closed. Such a trait is conditioned by the extent of interaction that exists between the system itself and the external environment. An open system, is characterised by a high degree of interaction with its hosting environment, and “it can acquire qualitatively new properties through emergence, resulting in continual revolution” (Desouza, Chattaraj, and Kraft, 2003: 129). As a result of this two-way interaction, changes happening within the system, will in return be reflected on the environment, and vice-versa. On the contrary, a closed system, as implied by the term, does not interact with the environment.

When applying the systems theory, the main objective is to view the system parts as constituting a whole, common goal of the system, underlying relationships between the constituent elements, and constraints. Such an approach, highlights the contextual rather than universal nature of this theory. As Gammelgaard notes, “to derive knowledge, it is necessary to analyze and compare cases instead of seeking universal cause-effect-relations. The systems approach is pragmatic in nature, and the search for an absolute truth is replaced by the search for a problem solution that works in practice” (Gammelgaard, 2003: 481).

By utilizing the System Theory, we have set the foundations for viewing logistics in general, or any logistics operation in particular, as a system compromised by several elements, and the relationships between them. This approach will enable us study Freight Forwarding sector as a system whereby, we shall at a later stage identify the constituent parts, the relationships, the constraints and the goal of the system. The systems approach to logistics analysis is founded upon the recognition that the individual logistics functions represent a series of inter-connected parts making up the total logistics system. In other words, no single function should be considered in isolation from the rest of the logistics system during the process of decision-making.
As stated in the purpose of this research study, the objective is to identify the bottlenecks in the Freight Forwarding sector in west coast Africa, through the use of both the Systems Theory and the Theory of Constraints (TOC). To this end, we shall touch upon the basic concept of TOC, as initially applied by Goldratt (1993) within a manufacturing context. Following, efforts are made to introduce the TOC concept in a service context, whereby we can evaluate the possibility of application of such concept to the Freight Forwarding sector.

4.3. The Theory of Constraints

“…That brings us to the real question, how does one go about identifying the system’s constraint? How can we zoom in on the most devastating erroneous policies? Or to use your term, how does one go about identifying the core problem, the one that is responsible for the existence of so many undesirable effects?” (Goldratt and Cox, 1993: 330).

The Theory of Constraints (TOC) is a management philosophy introduced by Dr Eliyahu M. Goldratt made famous through a novel called the Goal (1993). TOC constitutes the core concept conveyed through the novel, which as a philosophy recognizes that the maximum overall performance of a given system, is highly dependent on the constraint of that system. As implied by the title, any performance measurements or achievements, are to be viewed in terms of the organization’s or a given system’s goal.

“The theory of the firm, clearly states profit as one of the fundamental reasons for the existence of a firm, hence, any constraints within a system, be it in manufacturing or services, can potentially keep an organization from making the optimal level of profit” (Siha, 1999: 255). The underlying idea of TOC is that constraints, by definition, limit the performance of any system. “We can only get continuous maximum performance from a system by driving the system against its constraints” (Siha, 1999:255).

“Goldratt, viewed TOC as an overall theory for running an organisation”(Rahman, 2002:811), and he was proved right, in that the concept proved a success in the numerous applications it had, especially in a manufacturing setting. The theory in itself consists of two major components, namely the logistics paradigm, and the thinking process. The former consists of “five steps for on-going improvement, the drum-buffer-rope (DBR) scheduling methodology, and the buffer management information system” (Rahman, 2002:811). The constraint, also referred to as bottleneck, is not limited to a physical state; the concept itself encompasses all types of constraints found in a system, including managerial, or policy related ones. Goldratt, aiming at addressing the policy constraints and effectively implementing the process of ongoing improvement, developed an approach called the Thinking Process, constituting the second component of TOC. (Rahman, 2002)

Experts believe that it is the Thinking Process, which will ultimately have the most lasting impact on business. “The working principles of TOC and the application procedure of the TP are discussed in the following two subsections” (Rahman, 2002:811).

4.3.1. The Philosophy of TOC

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The theory of constraints relies on a revised set of measurements, and they are fundamental to the understanding of this theory. Conventional measurements used to express the goal in various organisations, as Goldratt rightly points out, “do not lend themselves very well to the daily operations of the manufacturing organization” (Goldratt and Cox, 1993: 59). Therefore, through the Jonah concept, Goldratt introduced a different set of measurements, that expressed the goal of making profit very clearly, as well as allowing for development of operational rules in a manufacturing context. They are namely:

- “Throughput – the rate at which the system generates money through sales. It is important to note the difference between production and sales; production does not necessarily equal to sold products.
- Inventory – all the money that the system has invested in purchasing things, which it intends to sells.
- Operational expense – all the money the system spends in order to turn inventory into throughput” (Goldratt and Cox, 1993: 59).

Goldratt’s quest for identifying a model that can be replicable and suited to any system, providing managers with a continuous business improvement tool, resulted in a five step process.

I. IDENTIFY the system’s constraints.
As previously stated, the constraints (bottlenecks) can be of physical, managerial, or regulatory nature; i.e. materials, machines, human resources, market conditions, outdated performance measurement metrics or top management practices. The first step is to identify such bottlenecks within the system or affecting it. Subsequently, with the goal of the organization in mind, prioritize the constraints, according the impact they have on the goal. (Rahman, 2002)

II. Decide how to EXPLOIT the system’s constraints.
Depending on the nature of the constraint, Goldratt suggests exploitation or elimination. Should the constraint be in the form of some physical bottleneck, such as machinery, human resources, or environment, the objective, Goldratt says, is to make the constraint as effective as possible. On the contrary, should the constraint be of a non-physical nature, i.e. regulations, managerial policy or techniques, Goldratt believes exploitation is not applicable. Instead, Goldratt suggests full elimination or replacement with a policy, technique or regulations which will support the overall goal of the organization: increased profit. (Rahman, 2002)

III. SUBORDINATE everything else to the above decision.
By identifying a system’s constraints, we have divided the system elements that can qualify as either constraints or non-constraints. While step 2 has exploited or eradicated the constraints, step 3 addresses the non-constraint elements of a system. Step 3 is designed to support the operations resulting from Step 2, through adjustment of the non-constraints of the system for optimum effectiveness of the constraints. “Because constraints dictate a firm’s throughput, resource synchronization with the constraint will lead to more effective resource utilization” (Rahman, 2002: 812).

IV. ELEVATE the system’s constraints.
“If existing constraints are still the most critical in the system, rigorous improvement efforts on these constraints will improve their performance. As the performance of the con-
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...strains improves, the potential of non-constraint resources can be better realized, leading to improvements in overall system performance. Eventually the system will encounter a new constraint” (Rahman, 2002: 812).

V. If in any of the previous steps a constraint is broken, go back to step 1. “WARNING!!! If in the previous steps a constraint has been broken, go back to step 1, but do not allow INERTIA to cause a system's constraint” (Goldratt and Cox, 1993: 303).

The final step, addresses the issue of Inertia. TOC is a continuous improvement process, that cannot be limited into a finite policy or regulation. Taking into account that time factor of the TOC application is not limited, one has to also consider the changes occurring in the system, primarily as a result of it being an open system. “Therefore TOC has to integrate and reflect such changes, by continuously assessing the situation for any potential changes” (Rahman, 2002: 812).

Graphically, Goldratt’s five step methodical ongoing improvement tool, can be expressed as follows:

![Diagram of the process of ongoing improvement](Figure 5: The process of ongoing improvement. Sourced from (Rahman, 2002:811).

The graphic clearly outlines the five steps, and the cyclic relationship between them. This is important to note for a number of reasons: first, it highlights the system concept and the interdependence between the steps. Second, it shows the importance of each step in the overall functionality of the system. Third, it highlights the importance of implementing integral reforms, an issue to be further elaborated in the Analysis chapter (VI).

4.3.2. Thinking Process

Depending on the nature of the system, constraints within a system can be physical or non-physical. Whilst the identification of a physical constraint within a system can be rather me-
thodical and straight-forward, “policy constraints are generally difficult to identify and evaluate, and frequently require involvement and cooperation across functional areas” (Rahman, 2002: 812). To this end, “Goldratt developed the TP methodology to address policy constraints and create breakthrough solutions using common sense, intuitive knowledge and logic” (Rahman, 2002: 812).

Goldratt’s Thinking Process, is a simple, yet not easy application that basically established a three-question practice aiming to “hone in on the core problem even in a very complex situation” (Goldratt and Cox, 1993: 333). The fundamental objective of the Thinking Process, as expressed by Goldratt (1993), “is to be able to construct and check solutions that really solve all negative effects without creating new ones. And above all to cause such a major change smoothly, without creating resistance but the opposite, enthusiasm” (Goldratt and Cox, 1993: 333). The three questions are as follows:

I. What to change;
II. What to change to;
III. How to cause the change.

In a supply chain and logistics context, the application of such an approach, as the Thinking Process, is “realized to identify critical factors, determine the causal relationships between these factors and investigate their interrelationship with supply chain performance” (Rahman, 2002:810).

Based on the two forementioned theories, we have generated the following model, which shall be further used in the Analysis chapter:
This model encompasses steps from both theories, that we considered relevant to the accomplishment of the purpose and the research questions. The model merges critical parts of the System theory, which will enable us to present the freight forwarding sector as a system. Further, it highlights the relationships between the constituent elements of the system, which will prove crucial in the presentation of the empirical material, and furthermore, in the analysis chapter.

### 4.4. Freight forwarders

This section includes different definitions of freight forwarders, their types, and their activities. For the purpose of this thesis, the focus will be directed towards International Freight Forwarders.
4.4.1. Freight forwarders by definition

We shall start with a general definition of a freight forwarder as provided Morash (1987);
“A freight forwarder is a common carrier who assembles and consolidates shipments, and who utilizes another regulated carrier for the line-haul movement. Both shippers’ agents and shippers’ associations perform similar functions to freight forwarders except that they are exempt from economic regulation” (Morash, 1987:16). Freight forwarders may be local or international, a “local freight forwarder is a consolidator that collects small shipments from shippers, consolidates these shipments into large loads, and presents the consolidated shipments to railroads or motor carriers for intercity movement” (Coyle, Bardi & Langley, 2003). The same definition may apply to International Freight Forwarders by replacing intercity movement with cross-border movement. However, different authors have provided numerous definitions: for instance, an International Freight Forwarders may be defined as “an international trade specialist who can provide a variety of functions to facilitate the movement of cross-border shipments” (Murphy and Daley, 2000: 152).

International freight forwarders are in business to provide co-ordination and assistance in all phases of shipments from the exporter’s plant to final overseas destinations (Stock and Lambert, 1983). Another definition as seen by Pope and Thomchick says that “Forwarders are primarily involved in moving goods out of their country of origin on behalf of exporters or shippers and in bringing goods into a country on behalf of importers” (Murphy, Daley, and Dalenberg, 1992:38). In some marketing literature International Freight Forwarders are defined as indispensable agents who are expert in handling the details of export shipments For the purpose of this paper, an international freight forwarder will refer to an international trade specialist who can provide a variety of functions to facilitate the movement of cross-border shipments (Murphy, Daley, and Dalenberg, 1992).

4.4.2. Types of Freight Forwarders

Freight forwarders can be divided into two major types, according to the level of expertise and range of services that they offer to their customers. Daley classified them as Inernational Freight Forwarders that offer multiple intermediary services and those which do not. The first one may be interpreted as the one stop shop approach: The holistic strategy, known as “one-stop shopping” concept, is used to refer to total service capability by a single Third Party Logistics (TPL) provider, including all operations for outsourcing, responsibility, and associated administrative work. “It is theorized that the one-stop shopping concept cannot be a success unless the service providers are meeting the expectations of their customers” (Semeijn and Vellenga, 1995: 27). Mahoney describes one-stop shopping as: “The TPL provider that promises to become a supermarket, where the shipper will be able to satisfy all needs with “One-stop shopping”. The shipper’s shopping list will be fulfilled with simplified documents from origin to destination and the shipper will receive an audited computerized printout, just like the housewife at the checkout counter” (Semeijn and Vellenga, 1995: 27). Such package solutions offered by a single Logistics Service Provider, can alternatively be offered by several, according to their specific services. The second type offers only one particular line of service often consisting of the basic range of activities that classify them as freight forwarders.
4.4.3. Functions of Freight Forwarders

The function of a Freight Forwarder can differ depending onto the type, size, and nature of the relationship with its partners: Murphy, Daley and Dalenberg (1992) listed a number of functions that Freight forwarders fulfill:

- Quoting steam ship rates
- Obtaining necessary vessel space
- Preparing commercial invoices
- Obtaining export licences
- Issuing export declarations for the shipper
- Preparing certificates of origin
- Obtaining and preparing consular invoices
- Compiling ocean bills of lading
- Compiling air waybills
- Obtaining insurance
- Paying freight charges
- Presenting documents to the bank
- Obtaining port warehouse space
- Tracing and expediting shipments
- Collecting and submitting money for shipments
- Advising shipper as to selection of terms of sale
- Acting as general consultant on export matters
- Provide for transport from exporter to final destination
- Legal counselling
- Export packing
- Shipment consolidation
- Make routing recommendations
- Break bulk

(Murphy, Daley and Dalenberg, 1992)
4.4.4. Standards and Connectivity: Important aspects within Freight Forwarders

When involved in an international trade discourse, with supply chains that transcend distances across any given two continents, one must address a critical aspect that keeps the two links of a supply chain bonded: connectivity. In a focal firm – Third Party Logistics provider scenario, where operations take place in different geographic locations, the integration of the whole network is dependent and conditioned by all the actors involved. “Since supply chains are inter-organizational, there is a need for coordination of actors and connectivity of systems; but since firms do not participate in a single supply chain, they do not want total integration in just the one” (Fabbe-Costes, Jahre, Rouquet, 2005:94). Rather they partly integrate with multiple chains, which results in what could be called quasi-integration. “The multiple relationships they develop and the evolution of these relationships depend on the projects in which they participate and lead to the development of logistics networks structures in which standards play a key role” (Fabbe-Costes, Jahre, Rouquet, 2005:94).

Take the example of Bourbon Group, engaging in import activities in the West coast of Africa: whilst it is virtually no challenge for the company to identify a suitable freight forwarder in the European market to carry out standard forwarding procedures, the issue becomes a challenge in the African market. Due to a lack of connectivity in terms of operational infrastructure, information, and network, Bourbon has had to change its forwarders several times, or cope with long transit time and average quality. The latter suggests that there is a lack of standardized standards, which is to mean that, considering that the import-export figures for Africa in general, and West coast Africa are not by any means comparatively high to those of Europe, there is a lack of application and utilization of such services. Consequently this has led to a lack of standards. Fabbe-Costes, Jahre, Rouquet (2005) sug-
suggest that “standards are a third mechanism for achieving coordination in addition to the two common ones – market and hierarchy. Indeed, standards create similarity and homogeneity among people and organizations. They are also instruments of control and a form of regulation and thus “generate a strong element of global order in a modern world . . . ” (Fabbe-Costes, Jahre, Rouquet, 2005:94) providing means for coordination and connectivity. “Standards possess some qualities that can affect the ease with which they travel between and within organizations and organizational fields. They create a common language between the adopters, reduce the transaction costs, and also allow for large economies of scale” (Fabbe-Costes, Jahre, Rouquet, 2005:95).

Shapiro and Varian (1999) take the discourse further, by introducing the trade off aspect between compatibility and performance. (Fabbe-Costes, Jahre, Rouquet, 2005:95) Whilst Bourbon needs to ensure that they identify a forwarder that is suitable to perform procedures particular to their line of business, it also needs to consider that, top performance might not necessarily be a distinguishing trait of the chosen forwarder. In the case of choosing a Freight Forwarder in Africa, it might be the case that, under conditions of limited resources, hence limited choice, the company will need to trade between availability and performance. One type of standardization is achieved through removal of barriers and market liberalization (and deregulation) caused by making obsolete differences in national practices. Whilst the European market has been deregulated, leading to established high set of standards, in the case of West coast Africa, integration, deregulation, and liberalization, crucial to a highly integrated and connected system, and has yet to occur.

4.4.5. Freight Forwarders - a Supply Chain perspective

When writing about intermediaries in general, and freight forwarders in particular, one can not overlook its connection and relevance in a supply chain context, and the impact freight forwarders can have on the focal firm’s managerial choices, as they create possibilities or limitations (Fung, Chen and Yip, 2006).

“The relationship between the focal firm, and the freight forwarder cannot be viewed solely as an isolated dyad, considering that this relationship is often subjected to other influencing factors. However, in research on channel relationships, the predominant focus has been on pair-wise or dyadic relationships” (Fung, Chen and Yip, 2006). Why is it important to study trade intermediaries in general, and freight forwarders in particular?

I. Trade intermediaries are instrumental to the expansion of global trade.

“As an improved intermediary performance, will result in further trade development. Intermediaries often find it difficult to develop relational partnerships because supply chain members operate in different countries and often have inconsistent business goals” (Fung, Chen, and Yip, 2006:160), business spanning across international borders, is more difficult to manage and sustain.

II. “As firms focus on their core activities and outsource the rest, their success increasingly depends on their ability to control what happens in the value chain outside their own boundaries” (Fung, Chen, and Yip, 2006:160).
5. **Empirical presentation**

In this chapter we shall present the empirical data we have obtained on the Logistics Performance Index concept, trade barriers in the countries under study, a detailed presentation of the current situation in each country in a system approach. We shall also succinctly introduce a short profile on each of the five countries discussed in this study.

This chapter is organised in three parts; the first part focuses on our case study: the Logistics Performance Index concept, constituting the only complete study in logistics and trade related matters worldwide. The second part, trade barriers, highlights the nature of constraints that can affect the activity of freight forwarders. The final part provides a succinct country profile, for each of our five focus countries in West coast Africa, highlighting issues relevant to the Analysis chapter, namely: import/export procedures expressed in terms of cost, and time, ports, infrastructure, government regulations and reforms, and trade barriers.

### 4.5. The Logistics Performance Index

“The Logistics Performance Index (LPI) and its indicators provide the first in-depth cross-country assessment of the logistics gap among countries. Drawing on the first-hand knowledge of logistics professionals worldwide, it provides a comprehensive picture of supply chain performance—from customs procedures, logistics costs, and infrastructure quality to the ability to track and trace shipments, timeliness in reaching destination, and the competence of the domestic logistics industry” (Arvis, et al 2007:1).

The World Bank, with its professional and academic partners, has produced the (first) Logistics Performance Index (LPI) to start closing the knowledge gap and help countries develop logistics reform programs to enhance their competitiveness. The results of LPI ranking introduce some interesting findings; first, the higher the score in terms of LPI, the greater the countries’ role in logistics industry, and vice versa. On a second note, scoring low in LPI terms, can be interpreted as being “trapped in a vicious circle of overregulation, poor quality services, and under-investment” (Arvis, et al 2007).

The Logistic Performance Index report, is built upon previous literature, such as studies from World Bank: *Doing Business*, and the World Economic Forum’s: *The Global Competitive Index*. Its focus however, is primarily on supply chain performance, and its indicators have been developed in such a way that, they complement the existing competitive indicators in the two fore-mentioned studies.

Taking into account the rapidly changing trade scene, in terms of growing distances, and highly integrated and intertwined supply chains, there is a need for an evaluation of the existing metrics. LPI, as implied by the acronym, places great emphasis on performance, expressed through the reliability and predictability factor, unlike the conventional perform-
ance metrics, such as direct freight costs and average delays, or more generically expressed in terms of time and costs. World Bank representatives, experts in the field, and academics, came to the conclusion that, currently important indicators such as transparency of processes and the quality, predictability, and reliability of services in logistics, cannot be captured solely from the information available on time and costs. “The predictability and reliability of shipments, while more difficult to measure, are more important for firms and may have a more dramatic impact on their ability to compete” (Arvis, et al 2007:4).

The LPI consists of two main parts, namely International and Domestic LPI. The former has encompassed a range of metrics, they estimate as crucial in the current international trading environment, and conditions:

- Efficiency and effectiveness of the clearance process by Customs and other border control agencies;
- Quality of Transport and IT infrastructure for logistics;
- Ease and affordability of arranging shipments;
- Competence in the local logistics industry (e.g., transport operators, customs brokers);
- Ability to track and trace shipments;
- Domestic logistics costs (e.g., local transportation, terminal handling, warehousing); and
- Timeliness of shipments in reaching destination. (Arvis et al. 2007)

The Domestic LPI in itself is further divided into two sub-sections: Environment and Institutions, and Performance. The Environment and Institutions part consists of:

- Logistics operational environment
  a. Port/Airport charges
  b. Overall logistics costs (port charges, domestic transport, agent fees)
  c. Warehousing service charges
  d. Rail transport rates
  e. Less than full truck load services rates
  f. Full truck rates
- Quality of infrastructure
  a. Telecommunications infrastructure and services
  b. Fixed transport infrastructure (port, roads, warehouses)
- Effectiveness and efficiency of processes
  a. Do traders demonstrating high levels of compliance receive expedited Customs clearance?
  b. Can Customs declarations be submitted and processed electronically?
  c. Do you receive adequate and timely information when regulations change?
  d. Is Customs clearance a transparent process?
  e. Are export shipments cleared and shipped as scheduled?
  f. Are import shipments cleared and delivered as scheduled?
- Level of competence of professions
  a. Trade and transport related associations
  b. Other border crossing-related government agencies
  c. Customs agencies
  d. Freight forwarders
  e. Consignees or shippers
  f. Warehousing and distribution operators
  g. Air transport service providers
  h. Rail transport service providers
  i. Road transport service providers
  j. Customs brokers
- Evolution of factors over the past 3 years
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a. Overall business environment
b. Good governance and eradication of corruption
c. Regulatory regime
d. Availability of private sector services
e. Quality of telecommunications infrastructure
f. Quality of transport infrastructure
g. Other border crossing-related government agencies clearance procedures
h. Customs clearance procedures
• Incidence on your activity of the following constraints in your country of work.
a. Solicitation of informal payments
b. Criminal activities (e.g. stolen cargo)
c. Major delays due to pre-shipment inspection
d. Major delays due to compulsory warehousing” (LPI official website).

If taken in isolation, none of these elements can provide a complete picture on logistics performance. Therefore, the selection and combination of these factors is not coincidental, and “it is based upon the latest theoretical and empirical research” (Arvis et al. 2007:8).

4.5.1. Methodology of LPI

4.5.1.1. About PCA

The Logistics Performance Index is the resultant study, following the use of over five thousand individual country evaluations covering 150 countries in total. “The LPI was aggregated as a weighted average of the seven areas of logistics performance. Taking into account the vast quantity of data utilized, the LPI founders used the Principal Component Analysis method in order to improve the confidence intervals” (Arvis et al., 2007:8).

“Principal Component Analysis, originally developed by Hotelling (1933), involves a mathematical procedure that transforms a number of (possibly) correlated variables into a (smaller) number of uncorrelated variables called principal components” (Yan, 2004: 3).

“The LPI is a robust combination of the various dimensions from the international assessments, built by standard econometric techniques to maximize significance and improve confidence intervals, which are computed at a 10 percent level. The average confidence interval on the 1–5 scale is 0.16, the equivalent of eight places in the LPI ranking. These calculated intervals are larger for small markets that have few respondents” (Arvis et al. 2007: 9).

4.5.1.2. The Questionnaire

“The Logistics Performance Index is built upon and its indicators have been constructed from information gathered in a worldwide survey of the companies responsible for moving goods and facilitating trade around the world—the multinational freight forwarders and the main express carriers” (Arvis, et. al., 2007: 8).

“The survey was conducted through a web-based questionnaire, completed by more than 800 logistics professionals worldwide—“the operators or agents of the world’s largest logistics service providers” (Arvis et al. 2007: 8).
4.5.1.3. The 1-5 scale

“The LPI and its indicators are given on a numerical scale, from 1 (worst) to 5 (best). This scale can also be used to interpret performance outcomes measures. For example, the analysis based on the additional country information gathered in the survey, indicates that, on average, having an LPI lower by one point (say, 2.5 rather than 3.5) implies six additional days for getting imports from the port to a firm’s warehouse and three additional days for exports. It also implies that a shipment is five times more likely to be subject to a physical inspection at entry” (Arvis et al., 2007: 8).

4.5.2. Practical implications

The index allows for interpretation of the data based on the diversity of the metrics used, and on previous knowledge on a specific country; take the example of Nigeria.

Based on the ratings, Nigeria is positioned significantly higher (97), when compared to some other low-income countries, for instance Senegal (105), and Ghana (129). De Wulf and Sokol (2004) note the correlation between the successful customs reforms, on border processing, and the quality of support services; “Forwarders praise the clearance system in Senegal (76 on border processing), but are overwhelmingly negative for Nigeria (96 on border processing). However, they have the opposite opinion for the quality of support services (such as ports and trucking), where Nigeria has benefited from efficient port operations, thanks to privatization of the main container terminals” (Arvis et al., 2007: 9).

Landlocked countries in West and Central Africa, have scored even lower in terms of LPI, and experts associate such a poor score to the “tour de role concept – overly regulated freight allocation system, and the over-regulated service industry” (Arvis et al, 2007)

The LPI and its indicators propose a comprehensive approach to supply chain performance. Taking into account the Freight Forwarder’s role as a strategic channel intermediary within a supply chain, particularly in a cross-boarder spanning supply chain setting, the assessment of the key influencing factors within the FF industry becomes very relevant to this study. On a more practical note, take the case of an international company in the process of selecting a freight forwarder in a foreign country; the company can utilize the LPI concept to evaluate the overall logistics performance of the chosen country, and identify the weakest indicator amongst the seven fore-mentioned factors. By identifying the challenges, the company will then be in a better position to select the candidate demonstrating more strength and expertise in the challenging area.

This study will employ the LPI concept as a constituent step in the model for selection of freight forwarders – the core objective of this thesis.

The map below shows how different regions worldwide fall in any of the following divisions, based on the LPI rate.

It appears that majority of African countries fall in the LPI 1-2.29 category, reflecting predominantly low-income countries affected by conflict or severe governance problems. Landlocked developing countries, especially in Africa are the most logistically constrained.
They typically suffer not only from geographical disadvantages resulting in high transport costs and delays, but also from limited access to competitive markets for logistics services and dependence upon the performance of other transit countries.

Figure 8: LPI differences across different regions. Sourced from (Arvis, et al., 2007: 8)

4.5.3. Key factors in logistics performance

*Telecommunications, IT and transport infrastructure*
With increasing distances between suppliers – manufacturers – customers, and greatly reduced cycle times, telecommunications, IT and transport infrastructure comprise a challenge in Africa in general. In Sub-Saharan Africa 43 percent of respondents see such infrastructural challenges as an issue. (Arvis et al., 2007)

*Competence of private and public logistics service providers*
In the context of supply chains spanning across continents, its overall performance depends on the quality of the service provided by the private sector, through custom brokers, and transport operators. However, the performance of the supply chain also depends on the regulations, competence, and diligence of the public sector; for instance the restrictions on imported goods, border procedures, regulations, etc. in charge of border procedures. (Arvis et al., 2007)

*Customs and other border agencies*
Taking into account that, one third of import time accounts for customs clearance, the LPI also touches upon the customs and other border agencies related issues. The latter are closely interconnected with governmental bodies, and subjected to regulations and restrictions that could directly affect both the cost and time factors. Overregulation, lack of coor-
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dination and lack of diligence, could result in long transit times, costly procedures, resulting in low LPI ranking.

**Corruption and transparency**

LPI looks at logistics performance also from the broader policy dimensions, including the overall business environment, the quality of regulation for logistics services, and most important, on overall governance. “The transparency of government procurement, the security of property from theft and looting, the macroeconomic conditions, and the underlying strength of institutions are critical factors in determining logistics performance” (Arvis et al., 2007: 10).

Such correlations are clearly reflected in the LPI, where low scoring countries, also manifest trends or tendencies low scores in the transparency of border processes criterion.

**Reliability of the trading system and supply chains**

“For traders at the origin or the destination of the supply chain, what matters most is the quality and reliability of logistics services, measured by the predictability of the clearance process and timely delivery of shipments to destination” (Arvis et al., 2007: 10).

The results produced show a great disparity between the positive and negative indicators. When considered in entirety, all of the factors considered by the LPI study—quality of infrastructure, the competence of private and public logistics service providers, the roles of customs and other border agencies, governance issues such as corruption and transparency, and the reliability of the trading system and supply chains—reinforce the claim that logistics performance is tightly connected to predictability. LPI furthers the predictability concept by defining it as central to the overall costs that companies incur in logistics and thus to their competitiveness in global supply chains. (Arvis et al., 2007)

**It is a question of predictability and reliability**

What LPI succeeds in highlighting very clearly is the great importance an organization places on predictability and reliability, and the direct correlation with induced costs. “Firms have to bear the direct costs associated with moving goods, such as freight costs, port and handling charges, procedural fees (such as bonds), agent fees, and side payments. But they also have to absorb the induced costs associated with hedging for the lack of predictability and reliability of the supply chain (Arvis et al., 2007) Both aspects, could lead the company to holding higher inventory levels, or employing more expensive modes of transport to ensure the supply chain remains both predictable and reliable at any given link. (Arvis et al., 2007)

“In Africa, even in the larger coastal economies of Nigeria and Kenya, the cost of importing or exporting a 40-foot container is in excess of $2,000. Costs are also increased by the low economies of scale for multimodal infrastructure or structural imbalances of volumes of trade along corridors. In some regions, especially in Africa and Central Asia, the freight costs are augmented by a proliferation of official and unofficial payments. In western Africa facilitating payments and mandatory procedural fees double the direct cost of transportation”. (Arvis et al., 2007:17).

In conclusion, LPI introduces the *vicious and virtuous logistics concept*, which is a succinct representation of Goldratt’s Thinking process: What needs changing (vicious circle), and change into what (virtuous circle).

As it will be shown further in the course of this study, Sub-Saharan Africa in general is the case of poor all-around indicators. “With regions that have been left behind in the globalization process over the past 50 years, Africa’s share in world trade fell continually throughout in the second half of the 20th century” (Lawrence, Blanke, Hanouz and Moavenzadeh, 2008:9). The latter presents a clear cause-effect picture as to why most countries in Africa, including our chosen region, have the poorest transport infrastructure among all the regions assessed—on a scale of 1 to 7, the region scores only a low 2.6. These grim figures also apply to over-regulated border procedures, lack of transparency and poor overall logistics capabilities.

4.6.1. The Enabling Trade Index

Numerous recent studies have addressed the issues of international trade, and logistics, namely: The world is flat, Borderless World, The Death of Distance, and Connecting to Compete – Trade Logistics in Global Economy. The Global Enabling Trade Report, a World Bank publication, takes a close look at a number of international trade indicators, and develops the Enabling Trade Index. ETI addresses a number of factors crucial to international trade enabling, with special emphasis on logistics operations, and import procedures.

The discussion on freight forwarders in the Western coast of Africa, can benefit from analogy to the ‘law of one price’, used by the Global Enabling Trade Report 2008. Based on the ‘one price’ principles, similar goods or services should have similar prices regardless of
where they are sold, or made available. When referring to the case of Freight Forwarder services in the western coast of Africa, it is primarily the case of inclusion of costs that are ‘not tradable’, such as induced costs, as a result of overregulation, failures within customs procedures, long transit times, overly-priced transport rates, etc. “Clark, Dollar, and Misco (2004) found that for most Latin American countries, transport costs are a greater barrier to US market than import tariffs. […] Improving the efficiency of a port from the 25th to the 75th percentile, in this specific case, reduces shipping costs by 12 percent” (Lawrence et al, 2008: 4). They also found out that, having inefficient and ineffective ports is equivalent to being 60 percent further away from the markets. (Lawrence et al, 2008)

The Global Enabling Trade Report (2008), has developed an index – The Enabling Trade Index (ETI), in an attempt to capture the various elements that contribute to high costs:

• Formal border barriers – used to measure ‘the policy and cultural framework friendliness’ of the country (Lawrence et al, 2008:7).
• Border administration – this metric aims to identify the level of facilitation provided by the administration at the border (Lawrence et al, 2008)
• Transport and communications infrastructure – this metric examines if the country has the transport and communications infrastructure capabilities to facilitate the movement of goods to the point of destination. (Lawrence et al, 2008)
• “Regulatory and security measures that affect the business environment. – assesses the set of regulations in its entirety impacting the transport business in the country” (Lawrence et al, 2008:7).

Similarly to the Logistics Performance Index, the Global Enabling Trade Index divides such costs into: pecuniary – to include trade duties and payments for services such as transportation, communications and security, and non-pecuniary – any cost in the form of additional time required to obtain information, transport products, obtain necessary clearance and documentation and costs associated to losses.

Further, the role of border procedures cannot be overlooked when discussing the challenges Freight Forwarders encounter in the west coast of Africa. Such procedures, can at times constitute barriers; in the form of tariffs, quotas, over-regulation, bureaucratic steps, and as such, can be seen as imposed by the government. “These types of barriers are especially significant in some developing countries, such is the case of west coast African countries” (Lawrence et al, 2008).

The role of the border is primarily associated to the customs procedures. In a study by GETR (2008) it has been estimated, that each day taken to clear through customs is the equivalent of a 0.8 percent tariff. (Lawrence et al, 2008) Inefficiencies at the border, whether through administration, procedures, or other types of constraints hinder both exports and imports (Lawrence et al, 2008). Sadikov (2007) focused on the bottleneck effects of each extra signature to be collected prior to an export procedure; he found that each such signature reduces aggregate exports by 4.2 percent. The financial implication of an extra signature can also be expressed as “equivalent to raising importer’s tariff by 5 percentage points” (Lawrence et al, 2008:4).

The activity of freight forwarders however, is not only conditioned by transport, and border procedures alone; “institutional quality encompasses government effectiveness, regulatory quality con-
of corruption, and rule of law” (Lawrence et al, 2008:5), all of which can result in positive or negative cost and time related figures of a freight forwarding procedure.

“The Enabling Trade Index (ETI) was developed within the context of the World Economic Forum’s Industry Partnership Program for the Logistics and Transport sector” (Lawrence et al, 2008:7). The Index was developed in close collaboration international associations in the realms of international trade such as the Global Express Association (GEA), the International Air Transport Association (IATA), the International Trade Centre (ITC), the United Nations Conference on Trade and Development (UNCTAD), The World Bank, and the World Trade Organization (WTO). Leading organisations within logistics, namely “ABX LOGISTICS Worldwide, Agility, Deutsche Post World Net, DP World, FedEx Corporation, Stena, TNT N.V., and UPS, were also engaged in the development of the ETI 2008” (Lawrence et al, 2008:7).

While the ETI is an index developed primarily with the international trade in mind, metrics utilized to measure factors, policies, and services facilitating the flow of goods, such as import procedures, will prove useful in identifying some of the constituent parts and influencing factors in the Freight Forwarding system.

“Among the many barriers to the efficient cross-border movement of goods are the complexity of procedures, expenses in both money and time, and insufficiencies in infrastructures and operations” (Lawrence et al, 2008:69). Other obstacles to trade are related to the human and physical infrastructure and to institutional frameworks that have been developed over the years in each country to move products over border and to destinations. Whatever their origins, “these barriers have the consequence of limiting flow of trade, generally lowering welfare at the aggregate” (Lawrence et al, 2008:3).

The four main comprising sections of ETI, have been further dismantled into ten constituent elements, namely:

- “Tariffs and non-tariff barriers
- Proclivity to trade
- Efficiency of customs administration
- Efficiency of import-export procedures
- Transparency of border administration
- Availability and quality of transport infrastructure
- Availability and quality of transport services
- Availability and use of ICTs
- Regulatory environment
- Physical security” (Lawrence et al, 2008:7)

Considering that the emphasis of this paper is specifically on import procedures of Freight Forwarders, we shall focus on those elements applicable to this study. First, “the tariffs and non-tariff barriers’ looks at the deterring role this element can play with respect to imports. Examples of such barriers would be such as “anti-dumping measures, countervailing duties, and production requirements” (Lawrence et al, 2008:8).

“The efficiency of customs administration metric aims at assessing the perceived efficiency of customs procedures (formalities regulating the entry and exit of merchandise) by the private sector, as well as the extent of services provided by customs authorities and related agencies” (Lawrence et al, 2008:7).
The number of regulations and actors involved in an importing procedure is not limited to customs administration alone; therefore it is important to measure the efficiency of import-export procedures. “This metric extends the analysis to the efficiency of the clearance process by customs and border control agencies, the number of days and documents required to import goods into the country, and the total official cost associated with importing, excluding tariffs and trade taxes” (Lawrence et al, 2008:7).

Border administration have been assessed on a transparency level, to address the corruption issues highly associated to developing countries; in the case of west coast Africa, Nigeria appears to have soaring level of institutional corruptions. This metric examines the “pervasiveness of undocumented extra payments or bribes connected with import and export permits, as well as overall perceived degree of corruption in each country” (Lawrence et al, 2008:8).

A significant part of a freight forwarder’s responsibility is to arrange for transport, or/and consolidation, for the given amount of goods; the success of this process is conditioned by a series of factors, such as the market competitiveness, infrastructure, Freight forwarder’s knowledge, networking and negotiating capabilities. Most importantly, one has to pay attention to the one element that is likely to shape a whole country’s logistics capabilities, namely: the availability and quality of transport infrastructure. The measurement is performed through a detailed account of each country, in terms of “density of air-ports, the percentage of paved roads, and the extent to which they are congested, as well as the extent of trans-shipment connections available to shippers from each country. Also captured is the quality of all types of trans-port infrastructure, including air, rail, roads, and ports” (Lawrence et al, 2008:8). This metric, aside from the physical infrastructure capabilities of a country, also accounts for the service infra-structure capabilities. The range of services measured, include but are not limited to: the “quantity of services provided by liner companies, the ability to track and trace international shipments, the timeliness of shipments in reaching their destinations, general postal efficiency, and the overall competence of the local logistics industry – for instance, transport operators, and customs brokers” (Lawrence et al, 2008:8).

Information has an undisputed role in international logistics, particularly at an intermediary level for, i.e. Freight forwarders. Tracing and management of shipments, arrangement and coordination of transport, highly rely on the flow of information in order to minimize the cost and time factor of the flow of goods. The ICTs metric is therefore dedicated to the measurement of “the penetration rates of these new tools—such as mobile phones, Internet, and broadband —in each country” (Lawrence et al, 2008:8).

A major key influencer for the business of trade and logistics, and consequently all such procedures, is the set of policies produced by the government, and that are conducive to the cross-border flow of goods. The metric developed based on this factor, aims at “assessing the ease of hiring foreign labor in the country (important for companies moving goods across borders) and the openness of bilateral Air Service” (Lawrence et al, 2008:8).

The following scheme graphically depicts the stages involved in international trade from point of origin (market access), through the borders of a given country, to the point of destination. The scheme also highlights the different elements involved in each stage, upon which the ETI metrics have been developed.
4.7. **Section 3: Country Profiles**

Africa is home to fifteen out of the thirty-one landlocked countries worldwide; this status implies poor state of transport links, and isolation from major air and maritime routes. "Customs requirements result in considerable delays at border posts accounting for close to forty percent of transport time. The requirements are cumbersome involving a lot of red tape and mainly conducted manually despite the existence of computerized customs systems" (Toure, 2008:3).

The severity of the flaws in African economy, dates back to Colonial times, and it has further aggravated as a result of a series of correlated events, that can be summoned in a cause-result logical sequence:

1. As a result of the Treaty of Brazzaville in 1964) failed to produce the desired changes Efforts to unify commercial and institutional practices into workable regional partnerships amongst African countries (such as the Customs Union of Central African States—UDEAC—formed. (De Castro, 1993)

2. Pursuit of protectionist strategies of transport and trade development, restricted agreements with neighbors leading to higher cost, customs fraud, and uncompetitive transport. (De Castro, 1993)

3. Poor macroeconomic management plunged the African economies headlong into deep recession, undermining their financial and economic viability, and exposing serious structural deficiencies in their production, transport, and trade logistics. (De Castro, 1993)
Studying all African or West African countries would have been very interesting, and provided us with a broader view on the overall condition of North and Sub-Saharan African countries. However, our case is focusing on 5 major countries on the West coast of Africa namely; Angola, Cameroon, DR of the Congo, Gabon and Nigeria. Some of these countries are amongst the fastest developing economies in Africa like Angola and DR of Congo; and the others, Nigeria and DR of the Congo, are very attractive sources of energy and raw material for Western countries. Taking into account the trade flow amounting as a result of such economic growth and sources of energy, we have therefore decided to focus our study on the fore-mentioned countries. “West and Central Africa have more than 20 commercial maritime harbors. The number of vessels docking at its coasts has grown from 15 thousand in the early 1990s to more than 20 thousand during the early 2000s. These movements generate a trade volume (excluding petroleum) of more than 140 million tonnes, which is approximately 25 percent of total African Maritime traffic” (Monaghan, 2007: 13).

The rational for choosing these specific five countries in the West coast African region, consists of the following points:

- Angola, Cameroon, DR of the Congo, Gabon and Nigeria, are all engaged in international maritime trade, and they are not landlocked countries. This is important considering that, the results of this study would look very different if our focus had been on landlocked countries, due to the challenges associated to lack of coast, hence maritime trade.
- All five countries are growing economies of this African region; the wealth in natural resources being one of the reasons.
- A number of these countries are associated to some of the lowest performance in terms of logistics services, as defined by LPI. Therefore they make an interesting research case in terms of identification of constraints.
- On a last note, the organisation at the centre of our pre-study case, Bourbon Group, operates in all five countries.

The profiles aims at providing a succinct, yet necessary snapshot of the main factors in each country, affecting the process of freight forwarding – be it in import or export procedure. The following is a representation of all five countries under study, examined in terms of difficulty be it from a cost or time perspective, later compared to Singapore, as a benchmark for most efficient and effective in trading across borders.
Identifying the bottlenecks in Freight Forwarding in West Coast Africa by Berrada and Ciro

<table>
<thead>
<tr>
<th>Trading Across Borders</th>
<th>Angola</th>
<th>Nigeria</th>
<th>Cameroon</th>
<th>Gabon</th>
<th>DR Congo</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Documents for Export</strong></td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>7</td>
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<tr>
<td><strong>Time for export (days)</strong></td>
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<td>25</td>
<td>27</td>
<td>20</td>
<td>46</td>
<td>5</td>
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<tr>
<td><strong>Cost to export</strong></td>
<td>2250</td>
<td>1179</td>
<td>995</td>
<td>1945</td>
<td>2607</td>
<td>456</td>
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<tr>
<td><strong>US$ per container</strong></td>
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<td><strong>Cost to export</strong></td>
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<tr>
<td><strong>Documents for Import</strong></td>
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<tr>
<td><strong>Time for import (days)</strong></td>
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<td>42</td>
<td>33</td>
<td>22</td>
<td>66</td>
<td>3</td>
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<tr>
<td><strong>Cost to Import</strong></td>
<td>3325</td>
<td>1306</td>
<td>1672</td>
<td>1955</td>
<td>2483</td>
<td>439</td>
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<td><strong>US$ per container</strong></td>
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<tr>
<td><strong>Overall ranking in Trading Across borders</strong></td>
<td>172</td>
<td>144</td>
<td>137</td>
<td>128</td>
<td>160</td>
<td>1</td>
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Figure 11: Doing Business 2009: West Coast African Countries vs. Singapore

The measurements have been developed based on the following agreed definition:

<table>
<thead>
<tr>
<th>Documents required for Import and Export (No.)</th>
<th>Cost required to Import and Export (US$)</th>
<th>Time required to Import and Export (days)</th>
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</thead>
<tbody>
<tr>
<td>Bank Documents</td>
<td>Obtaining all the Documents</td>
<td>Obtaining all the Documents</td>
</tr>
<tr>
<td>Customs Clearance Documents</td>
<td>Inland Transport</td>
<td>Inland Transport</td>
</tr>
<tr>
<td>Port and Terminal Handling Documents</td>
<td>Customs clearance and inspection</td>
<td>Customs clearance and inspections</td>
</tr>
<tr>
<td>Transport Documents</td>
<td>Port and Terminal Handling</td>
<td>Port and Terminal Handling</td>
</tr>
<tr>
<td>Official costs only, no bribes or tariffs</td>
<td>Does not include ocean transport time</td>
<td></td>
</tr>
</tbody>
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Figure 12: What does trading across measure. Sourced from: (Doing Business, 2009:75)

4.7.1. Nigeria

“Nigeria is located in West Africa, on the Gulf of Guinea, between Benin and Cameroon, Chad and Niger. It has an area of 923,768 square kilometres, including about 13,000 square kilometres of water. Nigeria’s coastline along the Gulf of Guinea totals 853 kilometres”. (Library of Congress: Nigeria, 2008:2) Most of Nigeria’s economic activity is driven by its proven oil reserves of 36.2 billion barrels, ranking Nigeria as the tenth largest reserve in the world. Whilst, proven natural gas reserves are estimated at 182 trillion cubic feet, the seventh largest reserves in the world and the largest in Africa. (Library of Congress: Nigeria, 2008) Nigeria’s major import trading partners are, China – leading with 10.4 percent, followed by US with 7.3 percent, UK - 6.7 percent, Netherlands - 6 percent, France - 5.9 percent, Brazil - 4.3 percent, and Germany – 4.2 percent. (Workman, 2007)
Nigeria’s economy suffers from the ‘paradox of plenty’ or otherwise known as “the curse of oil”, as a result of widespread inefficiency and corruption, where by eighty percent of resources are allocated to only 1 percent of the population.


4.7.1.1. Nigerian ports

Nigeria’s several ports include the Apapa port complex, Port Harcourt, and the Delta ports of Warri, Koko, Sapele, Alajda Steel Jetty and the crude oil terminals of Escravos, Forcados and Pennington, and the Calabar ports; “unlike most ports in the world, Nigeria’s ports are predominantly service ports” (Adebambo, and Dosunmu, 2008:953). They are all administered by The Nigerian Port Authority, whose mission statement is "to ensure the efficient management of port operations, optimal allocation and use of resources, diversification of sources of revenue and guaranteeing adequate returns on its investments in order to contribute effectively to the well-being of the Nigerian Society" (Nigerian Ports official site).

Nevertheless, "Nigerian Ports have been inefficient and unattractive to shippers for reasons that can be classified as follows:

- Long turnaround time for cargo and ships
- Insecurity of cargo
- Unproductive labour force in Nigerian Ports
- Multiple government agencies in the ports
- Corrupt practices
- Excessive charges

Inevitably, resulting in:
Identifying the bottlenecks in Freight Forwarding in West Coast Africa by Berrada and Ciro

- Costs of imported goods have been high
- Sea-transport cost has been one of the highest
- Exports could not compete in international markets

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<td>Documents for export (number)</td>
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<td>Time for export (days)</td>
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<tr>
<td>Cost to export (US$ per container)</td>
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<td>1026</td>
<td>1179</td>
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<tr>
<td>Documents for import (number)</td>
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<tr>
<td>Time for import (days)</td>
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<tr>
<td>Cost to import (US$ per container)</td>
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<td>1306</td>
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Figure 14: Nigeria's scores on Trading Across Borders data between 2007-2009. Sourced from: (Doing Business, 2009: 37)

“Nigeria’s most important and largest port is Apapa; which constitutes a major congestion problem, due to the over-reliance on road transport alone. The congestion consequently leads to longer road transport time” (Adebambo, and Dosunnu, 2008:953).

Fuelled by poor internal indicators and international feedback and insistence, in “September 2004, the government of Nigeria initiated one of the most ambitious infrastructure concessioning programs ever attempted” (Leigland and Palsson, 2007:1). The program resulted in significant changes in the way Nigerian ports were administered:

“In two and half years, 21 terminals were assigned to 15 different local and international terminal operators, notable among which are AP Moller, Bollore, Bremenports, and Eurogate” (Mohiuddin, 2006). The concessions were followed by new legislative acts regulating the port sector: “an act establishing an independent regulator for all modes of surface transport had been drafted; and an awareness-building campaign to support the port sector reforms had been successfully carried out”(Leigland and Palsson, 2007:1).

4.7.2. Angola

Angola ranks amongst the largest countries in Sub-Saharan Africa. “It is situated in the south-west of the African continent, it covers an area of 1,246,700 km2 and has a population of approximately 14 million. Angola is situated between the Republics of Congo and DR of Congo to the north, Zambia to the east and Namibia to the south; to the west Angola has 1,400 km of Atlantic ocean coastline” (Leipzig, 1996: 5).

“By African standards, Angola is well endowed with energy resources, which include a large hydro potential, ample biomass stocks and substantial oil and gas reserves”(World Bank, 1991: xxvii).

Angola’s underdevelopment can be explained through the inefficient economic management and inadequate economic policies, contributing to the decline in production, “scarcities in the supply of consumer goods, and distortions in the distribution of income” (World Bank, 1991: xv) Since the end of the civil war in 2002, Angola has been on a quest for rebuilding its shattered economy, and infrastructure, which has resulted in very high economic growth, reportedly expected to exceed 28 percent for 2008 (Angola ready for 2010).
“Both foreign trade and domestic trade activities are constrained by rigid and pervasive government regulations and restrictions and by the predominance of inefficient public enterprises in imports and exports, in distribution, in wholesaling and in the retail network.” (World Bank, 1991: xviii).

Angola has inherited an unchanged transportation infrastructure, since the time of independence in 1976; “its state of conservation has deteriorated substantially in recent years when it has been seriously affected by the war and deferred maintenance” (World Bank, 1991: xiii). “The transportation system comprises of a modal mix of rail, highway, air, cabotage and shipping – which has excellent potential for supporting economic development, subject to investment and good management. The system has three lateral rail-port corridors, supported by feeder roads. Additional highways provide very basic north-south provincial links and access to national borders” (World Bank, 1991: xiii). Through the 90s Angola experienced security problems, leading to transport modes being disrupted, and infrastructure destroyed. Consequently, the economic system developed a number of constraints, to name a few: “inadequate fleet sizes of vehicles, trains, ships and aircraft; distorted tariffs; unsatisfactory service schedules; failure of urban passenger transit systems to meet rapid growth in demand; a chronic lack of all modal spare parts; weak trans-shipment facilities, especially at ports; inadequate maintenance facilities and insufficient technical staff; poor management” (World Bank, 1991: xxviii).

“The country now boasts the continent’s fastest growing economy, with an impressive 28 percent for 2008 alone, on the back of export-led double-digit growth, and is one of the world’s largest oil suppliers” (Angola ready for 2010). In contrast, the Doing Business report 2008 shows Angola occupying 172 place, in an index with 175 countries. This poor positioning can be explained by the over-regulation, corrupt, slow and costly export and import procedures. “A need to file many documents is associated with more corruption in customs. Faced with long delays and frequent demands for bribes, many traders avoid customs altogether, by smuggling goods across the country” (Doing Business Report, 2008: 39).

Angola’s major trading partners include the US, China, Russia, Switzerland, Japan and Norway.

Angola has a number of ports, namely: the port of Ambriz, Cabinda, Lobito, Luanda, Malongo, Namibe, Amboim, and Soyo. Rich in oil, diamonds, and many other natural resources, Angola’s increasing appeal among global investors is due to political and economic stability following the civil war that ended in 2002 (Angola ready for 2010).
4.7.3. Cameroon

Cameroon is situated in Western Africa, between Equatorial Guinea, the Bight of Biafra and Nigeria Cameroon.

Similarly to the countries on the west coast of Africa, Cameroon is also rich in natural resources, namely: petroleum, timber, coffee, and cocoa. The economy relies on agriculture, and has been steadily experiencing growth since 2005, with projections of 4 percent real economic growth for 2008(FT: Cameroon, 33).

Cameroon has focused on economic reforms, in an effort to catalyze more business. To this end, the government has liberalized some aspects of trade, passing new legislation in 2002. Efforts to reform port and customs administration: “A one-stop shop for customs procedures became operational in December 2000. All documents must be submitted within 48 hours of a shipment’s arrival. This innovation has reduced import formalities from 26 days to 15 days and export formalities from 14 days to 7 days” (FTB: Cameroon, 36).

Lack of transparency constitutes one of the most significant challenges of the system; Corruption continues to be an obstacle to doing business in Cameroon, and its manifested within the system even at border-point; “although the Cameroon government has tried to speed customs clearance, customs fraud is still a major problem and protracted negotiations with customs officers over the value of imported goods are common”(FTB: Cameroon, 33). An average of three days is needed to clear goods through customs.

Cameroon has several ports, Douala being the major one, followed by the smaller ports of Limbe, Kribi, and Garoua. Doula port has served Central Africa since the 19th century, and although it handles 95 percent of Cameroon’s port cargo volume, is also known for its inefficiency. In an effort to improve the efficiency indicators, ports were granted administration autonomy in 2000. Transport efficiency however, relies on the state of the infrastructure.

Cameroon’s main trading partners are France – “also the most important source of investment, Spain, Italy, South Korea, Netherlands, US, Belgium, Nigeria and China” (Maharaj, 2008:1).

![Export and Import levels (US$ mill.)](image)

Figure 16: Angola’s Export and Import levels. Sourced from: (LBD database, 2008)
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World Bank’s yearly publication, Doing Business 2009, shows Cameroon ranked at 137th for 2009 with respect to trading across borders ease.

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<td>Cost to import (US$ per container)</td>
<td>1047</td>
<td>1047</td>
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4.7.4. Gabon

“A high degree of political stability by African standards, a low population size, ample natural resources and the foreign support which has been forthcoming in recent years have helped to make Gabon one of the wealthiest and most stable states in Africa” (Schimm, 2008:4).

Gabon is situated in West Africa, and shares borders with Cameroon and Congo. With 1.4 million in population, Gabon is amongst the most stable countries in Western Africa.

Similarly to the other countries situated along the western coast, Gabon is rich in oil, resulting in oil-dependent economic development. The country’s wealth is inequitably distributed, resulting in a relatively low overall level of development. (Schimm, 2008) The economy has been developed at a steady rate, with a 4.5 percent growth for 2008. “By the standards of other African countries, Gabon exhibits high per-capita income of approximately USD 7,800, which puts it in the league-table of middle-income countries” (Schimm, 2008:2).

The 2008 Corruption Index from Transparency International addresses corruption as a serious challenge for a developing Gabonese economy; ranking as 96th out of 180 countries, the government is left with the task of undertaking numerous reforms in terms of combating corruption and facilitating trade. In the Doing Business index with regards to trade across borders, ranks 128th, manifesting significant lack of improvement in a number of indicators concerning import and export practices.

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<td>Time for export (days)</td>
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<tr>
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<td>1945</td>
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<td>Cost to import (US$ per container)</td>
<td>1600</td>
<td>1600</td>
<td>1955</td>
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Figure 17: Trading across border: Cameroon between 2007 and 2009. Sourced from (Doing Business, 2009: 37).

From the five countries under study, Gabon appears to have the most well connected infrastructure, with the Trans-Gabon Railroad playing a major role in domestic or regional trade as the most important unit in Gabonese infrastructure. “The 669km long Trans-Gabon Railroad, is operated by the government, and links Franceville in the southeast with the Atlantic coast Port of Owendo – the biggest port in Gabon” (Mobbs, 1995:304).

Gabon’s trade heavily relies on maritime transport, 90 percent of such trade, consequently, ports in the country have been referred to, as stated by President Ondimba, “as the real lungs of the country”.

Gabon has a total of six ports, namely: Port of Libreville, Lucina Terminal, M-Bya Terminal, Mayumba, Port Gentil, and the most important of all six, Port Owendo. They date back to the 1970s, are due for radical investment, in order to align operationally with Gabon’s strategy to become a hub for the sub-regions as a maritime gateway to Central Africa. The most important port in the country, Owendo, has good road and rail connections, meeting trans-border points in the Republic of Congo and Cameroon. “Port reforms began in Gabon in 2004 with the privatization of port services and the government remaining the landlord port body” (Monaghan, 2007: 13).

“As Maersk director – Adam ul Hoque notes, “Port traffic is always a good barometer of a nation’s economy”, and Gabon has seen import and export volumes increase dramatically in the past five years” (Monoghan, 2007: 14). Gabon’s main trading partners: “US, China, France, Trinidad and Tobago, Thailand, Netherlands, Cameroon and Belgium” (Maharaj, 2008:1).
4.7.5. The Democratic Republic of Congo

The Democratic Republic of Congo (DRC) is a vast country located in Central Africa. Spreading across 2.3 square kilometers, DRC borders with several countries, namely: Angola, Burundi, Central African Republic, Rwanda, Sudan, Republic of the Congo, Tanzania, Uganda and Zambia (DESA, 2007).

DRC has suffered from very unstable politics, resulting in both conflicts and rule under colonialists; the most recent conflict, dating back to 1998, has negatively impacted the economy. “Government revenue is very low, businesses have slowed down, and investment is low. Foreign businesses curtailed operations due to uncertainty about the outcome of the conflict, lack of infrastructure, and the difficult operating system” (DR Congo country profile, 1).

Economic stability improved in 2003-05, although an uncertain legal framework, corruption, and a lack of openness in government policy continues to hamper growth. (DR Congo country profile, 1) The latter primarily is in the form of red tape, over-regulation, and bribery. This phenomenon is known to the Congolese government, which in an effort to combat such corruption driven problems, has engaged in projects with international institutions. “Additionally, the Parliament passed an anticorruption law in 2004” (DESA, 2007:14).

Owing to its geographic position, DR of the Congo has several ports, namely: Lubumbashi, Kisagani, Ilebo, Kinshasa, Matadi, Kitona, Banana, Boma, and Kalemie. “Lubumbashi is the main distribution point, as well as being the industrial and commercial capital of the DRC, playing a crucial role in the importation of goods into the DRC” (Zamtie, 2003:6). It must be noted that, the DR of the Congo relies heavily on imports, considering that its industries are mainly underdeveloped. “The DRC system of clearing goods can be very demanding and at times confusing. Contracting a good and reliable clearing agent can be the best solution. There are also a lot of “free lance” clearing agents at border posts, who seem to offer cheap service and claim to be able to reduce tariffs and taxes on goods through “negotiations”. One has to be careful when dealing with such persons as they can mislead or swindle a first time exporter” (Zamtie, 2003:8).

Trade across borders report (2008 and 2009), highlights facts on import and export procedures, and as a result ranks DR of the Congo amongst countries with the poorest performance (out of 178).
As for overall capabilities of doing business, the Doing Business report 2007, ranks DRC as the poorest performer, at 178. This positioning is attributed to “the overall lack of maintenance, and damage from the conflict, its transport infrastructure has deteriorated and the telecommunications and information technology are inadequate” (World Bank: DRC Trade brief, 2008:1).

DRC’s principal trade partners are Belgium, South Africa, China, and Brazil. “The country’s main merchandise exports are diamonds, nonferrous ores, crude oils, and coffee” (World Bank: DRC Trade brief, 2008:2).
5. **Analysis**

In this chapter we shall apply the theoretical model we produced from our two theories, to the data we possess on each of the five countries. Through this application, we shall be able to provide answers to the research questions presented in the introduction of this study. We shall analyze each research question individually based on the empirical material we presented, and the theories of this study.

In this section of the thesis, first, we plan to apply to the data the theoretical model we produced as a result of margining the systems theory, with Goldratt’s Thinking process, and Theory of Constraints. We aim to present the data using the system approach in order to highlight the actors, and the way they inter-relate to one another – the relationships. This will facilitate the application of the second part of the model where reflection on needed change, and identification of constraints constitute the major part. To conclude, following the identification of constraints, we interpret the available data for each country, and move onto the final step of suggesting reforms and means of adjusting the system to support the elevation of the constraint.

5.1. **Stage 1: Systems Approach**

Explain the problem based on Systems Theory in terms of actors, relationships, goal, and type of system:

**Actors involved:**
- Customs
- Infrastructure
- Capabilities of country in terms of International Shipments
- Logistics Competence of that country
- Tracking and tracing capabilities
- Domestic logistics costs
- Timeliness of shipments
- Regulatory environment (openness to multilateral agreements, tackling corruption, etc)

We do not include the company itself in the **Actors** section because we are looking at the freight forwarder’s process in general, and aim at identifying constraints that are not specific to an individual company. Such findings, we believe, will contribute more to research on the challenges of a freight forwarder’s activity operating in West coast African countries, rather than just the quality of the freight forwarders operating in that region. In addition, as it will be shown further in the course of this study, the nature of constraints we identify in the system, are not confined to a specific freight forwarder, further reinforcing our choice not to include them in the **Actors**.

**Relationships:**
1. Infrastructure and transport
II. Track and trace and transport  
III. Customs and timeliness, import and export with number of procedures, costs and documents  
IV. Domestic logistics cost with transport operators and infrastructure  
V. High costs for import procedures and international shipments  
VI. Customs and over-regulation  
VII. Customs and corruption  
VIII. Logistics competence and domestic logistics costs  
IX. Domestic logistics costs and infrastructure  
X. Customs and International shipments  
XI. Track and trace and international shipments  

The list does not exhaust all the relationships in the system for reasons that are beyond this study’s reach and focus. But it does highlight the most immediate and evident relationships, as covered by recent research into the subject. Depending on a country’s system, the procedures, regulations, and rules could be formulated and structured in such a way that, the actors also relate to one another differently from what they would in another country.  

Type of system:  
Open system considering that the impact of any of the actors from outside can impact the overall activity of the system as a whole.  

Common goal:  
Timely, good quality, minimal induced costs import/export procedures and freight forwarding services that are closer to standard rates, as published by the Global Enabling Trade Report 2008.  

5.2. Stage 2: Thinking Process by Dr Eliyahu Goldratt  

Based on the information obtained by our regular correspondence with the Key Informant from Bourbon Group, the problem within the Freight Forwarding field experienced by the company in the five West Coast African countries, can be summarized as follows:  

Bourbon Group’s main business managed from Europe, is located in West Coast Africa countries, namely: Angola, DR of Congo, Cameroon, Gabon, and Nigeria. Taking into account the main business takes place in these countries, and some spare parts and consumables cannot be obtained locally, the group has to import them into the countries.  

Based on experience, shipments are reported as always complicated as a result of local procedures, and the services provided by the Freight Forwarder Saga SDV (a sister company of Bollore Group based in France) were described as of average quality, always resulting in too long transit time.  

Having reviewed all the material available on this case, and additional literature on the West Coast African Logistics, it is crucial to the purpose of this study, and the research questions, to apply Goldratt’s Thinking Process concept.
5.2.1. **What to change: Identify constraints**

KI of Bourbon Group suggested that a different freight forwarder in each of those countries could be the key to the reported problem.

The latter would be a realistic solution if we were to assume that the freight forwarders themselves are the problem. Therefore, we ask the following two questions:

*Does it matter which Freight Forwarder (International Freight Forwarder only) you choose in West Coast African countries?*

*Are the Freight Forwarders themselves the constraint of the system?*

Based on the theoretical model, we propose to change into a constraint free system. To achieve this, we first need to identify the constraints of the system for each specific country.

### 5.2.1.1. Nigeria

Quality of Infrastructure as used by LPI, encompasses the transportation infrastructure for the physical movement of goods, as well as telecommunications and IT infrastructure. In the case of Nigeria, the constraint of the system is Infrastructure with a score of 2.11 out of 5. “Poor physical infrastructure is a major brake on development since it raises the costs of producing goods and services to levels that make them uncompetitive. Improving a country’s infrastructure through labor-intensive public works schemes can create large numbers of jobs, and also remove this impediment to economic growth. In this connection, improved energy supply, irrigation systems and road networks (particularly in rural areas) are essential requirements for economic”(UNOWA, 2006:11). Infrastructure is closely related to transportation, and since transportation costs account for up to 30 percent of overall logistics cost, infrastructure is also related domestic logistic costs. In Nigeria’s case however, it is interesting to note that, the Domestic Logistics Cost score a maximum of 2.98, when compared to the other five LPI indicators. This inverse correlation could imply that the transportation market is very competitive. It is not the purpose of this thesis however to look at such implications closely.

<table>
<thead>
<tr>
<th>Nigeria (93rd out of 150 countries)</th>
<th>LPI</th>
<th>2.40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Logistics costs</td>
<td>2.98</td>
<td></td>
</tr>
<tr>
<td>Timeliness</td>
<td>2.77</td>
<td></td>
</tr>
<tr>
<td>International shipments</td>
<td>2.36</td>
<td></td>
</tr>
<tr>
<td>Logistics Competence</td>
<td>2.35</td>
<td></td>
</tr>
<tr>
<td>Tracking and Tracing</td>
<td>2.31</td>
<td></td>
</tr>
<tr>
<td>Customs</td>
<td>2.21</td>
<td></td>
</tr>
</tbody>
</table>

*Infrastructure 2.11* out of 5

Figure 23: LPI for Nigeria. Sourced from: (Arvis, et al. 2007)
Infrastructure also refers to the use of telecommunications and IT infrastructure, directly connected to the track and trace process. Nigeria has a poor record of track and trace scoring 2.31 out of 5, primarily owing to the poor state of infrastructure.

Customs, directly related to transparency of the border procedures and the level of corruption amongst border administration, is the next worst indicator, after infrastructure, at 2.21 out of 5. “Lack of transparency and corruption is reflected in the form of solicitation of informal payments” (Arvis et al., 2007:14). Customs are also related to over-regulation, which although difficult to quantify, can be illustrated by the bureaucracy surrounding import and export procedures; in Nigeria both importers and exporters would need ten documents to complete either of the procedures. Customs clearance accounts for one third of import time, hence it is closely related to import and export time, which in the case of Nigeria are respectively 25 and 42 days. Whilst customs clearance only accounts for one third of the time, physical inspections, delays owed to infrastructure and lacks in coordination, explain the other part. Closely related to import and export procedures are also international shipments, which despite Nigeria’s sizeable exports owed to the oil industry, has performed poorly in terms of LPI, with a score of 2.36 out of 5.

It becomes evident that, in the case of Nigeria, the main constraint is the state of infrastructure, which due to Nigeria’s geographic coverage, poor state, and the time it would take for improvement, can be considered as a long –term constraint. The latter leads to high costs, and increased delays (transit times), further boosted by a reportedly high level of corruption and lack of transparency amongst customs administration.

5.2.1.2. Cameroon

Overall Cameroon's performance indicators, be it for both minimum and maximum values, start at a higher level than the indicators for Nigeria.

Similarly to Nigeria, infrastructure constitutes Cameroon’s constraint, at a score of 2. Based on the data obtained by both LPI and GETR 2008, this score reflects particularly the poor stage of transport infrastructure, and the lack of availability of quality transport services. As for the use of telecommunications and information technology, Cameroon appears to be making good use of it, which is also reflected in the ability they have to track and trace.

<table>
<thead>
<tr>
<th>Cameroon (84th out of 150 countries)</th>
<th>LPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Logistics costs</td>
<td>3</td>
</tr>
<tr>
<td>Timeliness</td>
<td>3.29</td>
</tr>
<tr>
<td>International shipments</td>
<td>2.33</td>
</tr>
<tr>
<td>Logistics Competence</td>
<td>2.25</td>
</tr>
<tr>
<td>Tracking and Tracing</td>
<td>2.5</td>
</tr>
<tr>
<td>Customs</td>
<td>2.57</td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td><strong>2</strong> out of <strong>5</strong></td>
</tr>
</tbody>
</table>

Figure 24: LPI for Cameroon. Sourced from: (Arvis et al., 2007)

Cameroon's Logistic competence constitutes a weak link in the system, with the lowest score of 2.25 after infrastructure. This can be explained by the poor state of infrastructure,
high transportation costs, lack of a competitive market, and poor services. And it can further be reflected in considerably low performance of international shipments; in terms of import and export procedures, Cameroon has a standard requirement for 9 export documents, 8 for import, and needs 27 days for an export procedure, and 33 for import. In this sector Cameroon scores 1.85 out of 5. As in the case of Nigeria, such long times, can be explained by lack of coordination between institutions, and over-regulation, particularly at a custom level. What is interesting to note in the case of Cameroon, is that the cost to export a 20-foot container is the lowest amongst all other four countries, 995 US dollars. As for import costs, Cameroon comes second to Nigeria, with a cost of 1672 US dollars.

Cameroonian customs performance is valued at 2.57, which reflects on matters such as customs clearance, administration efficiency, and transparency of the clearance procedure. In terms of reliability and predictability of the logistics services, Cameroon scores the highest level amongst the other indicators, 3.29, which speaks of relatively good timely delivery of shipments to destinations.

Cameroon’s constraint in terms of logistic performance, with a special emphasis on import/export procedures, is infrastructure, and similarly to Nigeria, such a constraint cannot be elevated immediately. One has to take into account the complex nature of this constraint, considering the size, coverage, and time factor needed to elevate it.

5.2.1.3. Angola

Similarly to the two preceding cases, Angola’s constraint in terms of over Logistic Performance Index, is infrastructure, at a 2.25 out of 5, which places Angola in the poor performers category: 2.52 - 2.29. Due to lack of data, it is not possible to specify whether such poor state of infrastructure reflects on both the transportation infrastructure, and that of telecommunications and IT. Considering that the tracking and tracing abilities are assessed as 2.38, one cannot underestimate the influence of low level of infrastructure on the ability to efficiently and effectively circulate information in support of tracking and tracing processes.

This relatively low performance score reflects on the overall logistics competence, through high costs and transit times, leading to a score of 2.5 out of 5. The situation is not helped by customs that are even at a lower performance level, of 2.4, reflecting on long clearance times, low efficiency of the administration, and significantly higher level or over-regulation, in comparison to the other 4 four countries. Import and Export times are clear indicators of the fore-mentioned consequences of a poorly performing customs. In order to import a standard 20-foot container into Angola, one needs 62 days to complete the procedure, and 68 days for an export procedure. These figures are approximately 2-3 times higher than those in other four countries, and contradict the fact that Angola is the fastest growing economy in Africa.

The over-regulation, lack of coordination between institutions, and generally long-lasting procedures prove a counter-effect to development, and government promoted trade, creat-
Identifying the bottlenecks in Freight Forwarding in West Coast Africa by Berrada and Ciro

ing bottlenecks in the ports\(^1\), leading to Angola having the highest number of documents for both import and export, respectively 9 and 12. The barriers to trade, in terms of import and export are also reflected in cost, with Angola ranking first amongst these five countries, as the most expensive country to import to and export from, with 2250 US dollars to export a standard 20-foot container, and 3325 US dollars to import.

<table>
<thead>
<tr>
<th>Angola (86(^{th}) out of 150 countries)</th>
<th>LPI</th>
<th>2.48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Logistics costs</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Timeliness</td>
<td>2.83</td>
<td></td>
</tr>
<tr>
<td>International shipments</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Logistics Competence</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Tracking and Tracing</td>
<td>2.38</td>
<td></td>
</tr>
<tr>
<td>Customs</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td><em><em>2.25</em> out of 5</em>*</td>
<td></td>
</tr>
</tbody>
</table>

Figure 25: LPI for Angola. Sourced from: (Arvis et al. 2007)

Within the customs discourse, it is important to note that, international shipments suffer as a result of what we described above within the import-export context, and particularly customs procedures. International shipments in Angola, score 2.5 out of 5.

What appears rather contradicting however, considering the poor level of infrastructure, is the significantly high score of domestic logistics costs, 3 out of 5. This could be explained by a series of factors, such as competitive transportation operators. It is not the purpose of this thesis however, to go in detail into such matters.

Overall, Angola, although similar to Nigeria and Cameroon in terms of infrastructural constraints, manifests the poorest performance in both time and costs terms, which could explain Angola’s score as the top most difficult country for conducting trade, according to the Doing Business report 2009.

5.2.1.4. Gabon

The case of Gabon is interesting, in that unlike the case of Nigeria, Cameroon, and Angola, its constraint is not infrastructure. Instead, the constraint is international shipments, at a low score of 1.67 out of 5. This can be explained by a number of factors. First, Gabon’s overall logistics competence is rather poor, 2 out of 5. Most of the supporting elements, in the case of international shipments, are poor performers, with Customs at 2.25 out of 5, and both tracking and tracing and logistics competence at 2 out of 5.

As highlighted in all three previous cases, lack of coordination between institutions, over-regulations, high cost of procedures, lack of IT capabilities and lack of transparency further boost the inefficiency of its logistics operations.

Gabon has relatively good indicators of import/export procedures; in terms of documentation needed for both import and export: 7, ranking it as the least bureaucratic country

\(^{1}\) The bottleneck problem in Angolan ports was reported to us by our KI on several occasions during the interviewing process.
Identifying the bottlenecks in Freight Forwarding in West Coast Africa by Berrada and Ciro

amongst the five. Similarly, Gabon has the lowest time for both import and export procedures, with 20 days for export, and 22 days for import. These figures are approximately 2-3 times lower than those of the other four countries, particularly when compared to the Angolan case. As for costs, Gabon ranks amongst the most expensive amongst five countries, with 1945 US dollars to export, and 1955 US dollars to import. This could be as a result of the poor performance of international shipments indicator.

<table>
<thead>
<tr>
<th>Gabon (134th out of 150)</th>
<th>LPI</th>
<th>2.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Logistics costs</td>
<td>2.75</td>
<td></td>
</tr>
<tr>
<td>Timeliness</td>
<td>2.33</td>
<td></td>
</tr>
<tr>
<td><strong>International shipments</strong></td>
<td><em><em>1.67</em> out of 5</em>*</td>
<td></td>
</tr>
<tr>
<td>Logistics Competence</td>
<td>2.75</td>
<td></td>
</tr>
<tr>
<td>Tracking and Tracing</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Customs</td>
<td>2.25</td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td><em><em>2.25</em> out of 5</em>*</td>
<td></td>
</tr>
</tbody>
</table>

As for infrastructure, Gabon constitutes an interesting case; from the five countries under study, Gabon appears to have the most well connected Infrastructure, with the Trans-Gabon Railroad playing a major role in domestic or regional trade as the most important unit in Gabonese infrastructure. “The 669km long Trans-Gabon Railroad, is operated by the government, and links Franceville in the southeast with the Atlantic coast Port of Owendo – the biggest port in Gabon” (Mobbs, 1995:304).

5.2.1.5. DR of the Congo

The DR of Congo represents a challenging case to analyse, due to a lack of data in terms of Logistic Performance Index. The only data in terms of logistics is sourced from the Doing Business Report, and focuses on the import/export procedures. DR of Congo manifests similar traits to Cameroon in terms of documentation required to complete import/export procedures, respectively 9, and 8. As for the time aspect, the DR of Congo is the second worst performer after Angola, with 66 days needed to import, and 46 days to export. Similarly, in terms of cost, the DR of Congo has the highest export costs amongst all five countries, with 2607 US dollars, and the second highest import cost, with 2483 US dollars.

As a result of limited data, it is impossible to determine the constraint of the system in case of DR of the Congo.

Summarizing the constraints:
In the majority of cases, three out of five, we identified infrastructure as the constraint, based on the lowest score, with the exception of international shipments in the case of Gabon. The case of this study however, is limited to freight forwarders activity, primarily confined to the port establishment, and assumes that the port is also the point of destination – in cases of import. Taking into account the extensive nature of infrastructure, not limited to a particular area but spanning across the country, and the level of investment and commitment required to eliminate it as a constraint, it would need major reforms, which would classify it as an expensive reform.

Figure 2b: LPI for Gabon. Sourced from: (Arvis et al. 2007)
Considering the complexity of infrastructure related reforms, and the scale of such investments, we can solely provide suggestions in the form of generic remarks. Should we pursue with infrastructure as a constraint in the case of Nigeria, Cameroon, and Angola, by virtue of the second step, we have to provide suggestions for the elevation of such constraints.

5.2.2. **What to change to: Decide how to exploit the constraints**

Following the identification of the constraints, based upon the lowest score, Goldratt suggests ‘deciding how to exploit the system’s constraint’ as the second step. Infrastructure, the most common amongst constraints, is of such magnitude, that immediate elimination to effect the entire system at once is not possible.

Considering the scale of this constraint, and the degree of investment that would have to be put in place for the elimination of such constraint, it will take a significant amount of time before any immediate tangible effects are felt on the system. Exploitation on the other hand, constitutes potentially an option, but encompasses an array of elements, briefly mentioned earlier. Therefore, we believe that, the step of elimination needs to be segmented into stages, whereby a part of them can be of an exploitation nature in order to yield rapid results.

The reforms to improve hard infrastructure, or otherwise referred to as transport infrastructure, have to focus on the reduction of both time and cost factors, and aim at building a network that will connect links that are vital to a supply chain, such as: internal port infrastructure, railway, warehouses with distribution plants, and markets. This will slash significantly the time and cost attributed to infrastructural failures. However, these reforms have to be undertaken, as part of a larger reforming process, where factors interrelated to infrastructure, will also be subjected to change. Within this discourse, Portugal-Perez and Wilson note “how large investments in hard infrastructure projects aiming to improve infrastructure quality, per se, are not necessarily conducive to lower transport prices; other measures in the “soft” part should accompany them” (Portugal-Perez and Wilson, 2008: 21). They suggest regulation reforms that will tackle cartels, interest lobbying groups and corruption among logistic services firms that keep high transport prices for end-users. “The aim is to bring to a halt the protection of inefficient logistics operators who discourage the entry of more modern logistics operators with lower operational costs” (Portugal-Perez and Wilson, 2008: 21). Therefore, one driving reform in the field of infrastructure in its entirety, both hard and soft, should be about encouraging a competitive environment in the market of transport operators.
Identifying the bottlenecks in Freight Forwarding in West Coast Africa by Berrada and Ciro

The use of soft infrastructure, new yet not leveraged to its full potential, also has major implications for the operations of forwarders. Take the case of two freight forwarders, operating respectively in Le Havre and in a West coast African country; “the forwarder in Europe would use a seamless, paperless system to manage the inland shipment of its 8-hectare campus in the gateway port of Le Havre. The transport inside Europe would take less than three days. And to add value for its client and generate more business, the forwarder would provide additional services, such as improving the client’s internal distribution practices” (Lawrence et al, 2008:54). In difficult governance and security environment, with procedures characterised by over-regulation, the freight forwarding company in a West coast African country, would be trying simply to avoid a breakdown in its client’s supply chain between the bureaucracy, long transit time, and high costs. All these conditions, combined with corruption, underdeveloped institutions, constraints on business competition, and weak governance—“make a great starting point for reforms, in order to reduce cost, time, and bureaucracy surrounding import and export procedures” (Portugal-Perez and Wilson, 2008:2).

Gabon, unlike the other three countries where infrastructure constituted a system constraint, has its poorest performance in international shipments. The latter implies a lack of logistics capabilities in dealing, arranging, and processing shipments to and from Gabon. But it also reflects on poor to track and trace international shipments.

As Perez and Wilson rightly point out, there is a need of complementary reforms, alongside with the elevation of the main constraint, in this case being infrastructure. LPI experts highlight the importance of the “strong synergies that exist among reforms to infrastructure, customs, border management, transport regulation” (Lawrence et al, 2008:58), and reforms tacking corruption and lack of transparency. This synergy is as a result of the reinforcing effect these reforms have when performed simultaneously; for instance, if one wants to reduce the number of days for an import/export procedure, there is need for a reduction in documentation, driving it towards the average of five – a World Bank standard. There is also a need
for a more rapid clearance process at the borders, with clearly published rates, and regulations, and no solicitation of private payments that would prioritize and distinguish between orders unfairly. “Therefore, targeting a single link in the logistics chain, may see initial results, but no lasting improvements” (Lawrence et al, 2008:54).

5.2.3. How to cause the change: Adjust the system to support the changes

In his five-step model Goldratt makes a point of highlighting the importance of the other constituent parts of a model in support of the constraint elimination. Effectively this means that whilst infrastructure (in the case of Nigeria, Angola, and Cameroon), and international shipments (in the case of Gabon), other indicators such as customs, import/export related procedures, and over-regulation related reforms have to be subjected to reforms. “Reforms should therefore follow an integrated approach, focusing on the interaction among infrastructure and public and private services, addressing coordination failures, and identifying constituencies for reform” (Lawrence et al, 2008:54). In the following section, we shall therefore address certain challenges within the system, that could benefit from reforms, facilitate the elevation of the system constraint, and contribute to higher performance indicators of the system in its entirety.

The Logistics Performance Index report through the rating of certain indicators, identifies the need for reform not only within the public sector, but also within the private one. Whilst infrastructure and services offered by the customs, and other border agencies account for a great part of the logistics operations, the private sector plays a crucial role in adding a competitive trait to the market. This would inevitably result in more competitive private service market, with improved quality and service rates. Transportation is a sector that suffers from low competition, reflecting the ‘differentiating’ regulations of especially West coast African governments; “Collier and Gunning (1999) throw light onto how these governments have adopted ‘cargo reservation schemes’, which allow privileged operators to set inflated freight rates, significantly higher than those that would prevail in a competitive environment” (Portugal-Perez and Wilson, 2008:14). The inflated transportation costs have been the subject of study of Teravaninthorn and Raballand (2008), who argue that the costs backed by transport-service providers are not excessively high in Africa, however they are often billed as such” (Portugal-Perez and Wilson, 2008). By adding a competitive element to the market, by increasing the number of operators, the services would be subjected to reviewed rates, and improved standards.

The example of the transport operators market, also raises the issue of corruption and lack of transparency, through favoritism, and artificial market regulation. The widespread phenomenon of corruption has grown to such dimensions that it is considered as a trade cost increasing element through extortion and evasion behaviors, and practices known as the suitcase businessmen. Gatti (1999) uses data on corruption perceptions and trade policy to show that higher trade costs—in this case, tariff rates—are indeed associated with a higher level of corruption” (Portugal-Perez and Wilson, 2008:14). Such wide-spread phenomenon, almost institutionalised, can be halted primarily through interventions at a government level. Currently there are a number of ongoing anti-corruption campaigns in Nigeria; but as the United Nations Office for Western Africa writes in one of its reports, “such campaigns should be sustained, expanded and emulated elsewhere” (UNOWA, 2006: 7).
Closely related to corruption, is institutional and procedural transparency; the lack of the latter, creates scope and facilitating conditions for corruption to flourish. The lack of transparency is particularly influential in the case of custom or cross border procedures for both import and export often materialized in the form of administrative favoritism, dispersion of tariff rates, extent of tariff bindings, unclear lists of prohibited goods, and uncertainty surrounding import and export times. (ibid.) Taking into account the significant time that goes towards clearance process, the role of transparency in customs procedures cannot be overlooked. “Clarifying the rules is an important start: more publicity, training and regular meetings with exporters on the clearance process can also make a difference. In Jamaica, where such efforts are in place customs brokers with low error rates are rewarded with access to fast-track clearance procedures, while those with high error rates face more scrutiny” (Doing Business Report, 2008:44).

The question of transparency and over-regulation, and the effect produced in both time and cost terms, is clearly shown in the following comparison: Benchmark standards set by the Organisation for Economic Cooperation and Development (OCDE) countries, require on average about 5 separate documents and clearing the goods in an average of 10 days at an average cost of about US$ 950 per container.

“In contrast, in sub-Saharan Africa almost double the number of documents that are required” (GETR 2008:36): goods take from 20 (Gabon) to 68 days (Angola) to be exported, and from 22 (Gabon) to 66 days (DR of the Congo) to be imported. In average, goods take from 35 days for exports to 44 days for imports.

To clear, it takes an average cost per container of between 1660 US dollars for exports and 1986 US dollars for imports; whilst in the case of the west coast Africa countries, it takes from 995 US dollars (Cameroon) to 2607 US dollars (DR of the Congo) in export costs, and between 1306 US dollars (Nigeria) and 3325 US dollars (Angola) in import costs. The import and export procedures in the case of West coast African countries would greatly benefit from shorter processing times, fewer clearance documents, and lower rates. Driving for such changes would therefore require for a greater level of coordination between insti-
tutions, be they public agencies or private organisations. It would also push for a more competitive market where a greater number of container firms, would results in rates that are closer to the estimated average of 1660 – 1986 US dollars.

The issue of over-regulation manifested particularly in import/export procedures, has become a inter-regional debate; “The African Union’s NEPAD program has proposed an Investment Climate Facility the main objective of which will be to assist African countries to put in place improved and simpler policies and regulations that facilitate trade and business generally. This will require support from many quarters” (UNOWA, 2006:7). Facilitation through policies and reforms could lead to a more competitive market, which in itself could prove a facilitator by driving costs down, and improving service quality.
However, reductions in costs and time cannot be applied in isolation, for a limited number of procedures, since as it happens with any system, or chain, other expensive procedures will be reflected in the overall total cost.

5.3. Research questions

Following the application of the theoretical model derived from the system theory, thinking process, and Goldratt’s theory of constraints, and the interpretation of the data, we can proceed to answering the following research questions.

*Does it really matter which FF you choose when importing goods into WA?*

In this chapter, we have shown how a freight forwarder’s activity can be expressed in terms of a system, made up of a series of inter-related factors, such as policies, regulations, public agencies activity and private sector services. The activity of any freight forwarder operating in a specific country will be subjected to rules, regulations, and procedures produced by the fore-mentioned bodies. Should the system, comprised of these elements manifest no sign of constraint - falling in the top performer category: 5-3.14, the problem would then lie outside the system. Take the case of Singapore, a top performer; its logistic performance indicators exceed the average standards agreed by World Bank, in many cases, they are twice as good. For the Singaporean market this highlights a competitive feature. Therefore, if the regulations, policies, and procedures are applicable to all operators equally, it is really a freight forwarder’s responsibility to identify the most competitive rates, and provide high quality, value added services.

In contrast, a non-competitive market in a west coast African country, where the rates are inflated, and the operators are offered government protection and market exclusivity, freight forwarders would not have a great array of choices from where to choose. In addition, the service a freight forwarder would offer to a multinational company, would be to a great extent affected by factors beyond a freight forwarder’s control, such as custom, border, and infrastructure related issues. In such case therefore choosing a freight forwarder over another one, will not solve the problems that exist within the system.

Following careful consideration, we came to the conclusion that, substituting the current Freight Forwarder with another company, will not necessarily result in solution of the problem for reasons that are as follows:

a) The activity of a Freight Forwarder depends on a series of factors that do not depend on the Freight Forwarder per se.

b) Freight Forwarders in order to accomplish their tasks, have access to services that are shared by all providers, and that are beyond their control.

*How can we dismantle Freight Forwarding activity based on a system approach?*

Through the application of Systems Theory, we expressed the inter-related factors in a freight-forwarders activity as elements, with a common goal, and inter-twined relationships.
We adapted the Logistics Performance Index and Trade barriers approach in defining the elements.

**Actors involved:**
- Customs
- Infrastructure
- Capabilities of country in terms of International Shipments
- Logistics Competence of that country
- Tracking and tracing capabilities
- Domestic logistics costs
- Timeliness of shipments *(does this really apply to the FF?)*
- Regulatory environment (openness to multilateral agreements, tackling corruption, etc)

**Relationships:**
I. Infrastructure and transport
II. Track and trace and transport infrastructure (hard infrastructure)
III. Customs and timeliness,
IV. Import and export with number of procedures, costs and documents
V. Domestic logistics cost with transport operators and infrastructure
VI. High costs for import procedures and international shipments
VII. Customs and over-regulation
VIII. Customs and corruption
IX. Lack of transparency
X. Domestic logistics costs and infrastructure
XI. Customs and International shipments
XII. Track and trace and international shipments

**Common goal:**
Timely, good quality, no-induced costs import/export procedures

**Does an improved Freight Forwarder selection method offer solutions to some of the issues addressed by international companies currently involved in export-import activities in Africa?**

This question is closely related and depends on the answer we provided to the first research question. In the case of West coast African countries, the constraints of the system are deeply rooted in institutions and procedures that are beyond a freight forwarder’s control. The constraints we have addressed can be elevated through the implementation of a number of inter-related reforms.

More than a radically changed freight forwarder selection method, it could be the case of being aware of the constraints, and prioritizing them in the selection criteria. Choosing a company that has a large network of contacts, and that has access to sources from within the system in order accelerate the clearance process. However, even so, the difference in service would not be significant, considering that the poor performance of the system is not concentrated in one segment; instead, it is as a result of a number of system failures, resulting in an overall poor performance.

**What is the constraint that makes importing/exporting goods to West coast Africa inefficient?**
Based on the data we analyzed, the system constraint in the case of Angola, Cameroon, and Nigeria, is infrastructure. Whilst in the case of Gabon, the constraint lies in international shipments. The poor performance however, is a result of cumulated poor performance of several indicators.

*What happens if a constraint cannot be elevated within a FF procedure?*

Upon identification of the constraints, namely infrastructure and international shipments, we realized that the constraint elevation step would prove challenging for reasons that are closely related to the magnitude, scope of the investment, and the time needed for the implementation of the reforms. This however, is not to say that the constraint cannot be elevated; instead it is more accurate to focus on the ‘immediacy’ aspect of the elimination or exploitation of the constraint. Considering the traits of infrastructure, it is impractical and not realistic to expect immediate elevation of the constraint.
7. Conclusion

The expansion of trade across borders has placed great focus on practices dealing with the management and facilitation of a particular link in the supply chain: the intermediaries. This study focuses on one specific form of intermediaries, the freight forwarders.

The activities of a freight forwarder in developed countries are eased and stimulated by supportive policies and regulations, competitive markets, sophisticated infrastructure, and flawless inter-institutional coordination. In the case of Africa, cross border trade procedures represent a challenge with both time and cost related implications for supply chains. Lack of previous research into this subject adds to the conundrum encompassing those elements, whether in the form of activities or policies, that act as constraints to the activity of freight forwarders.

This study addressed the issue of bottlenecks within the freight forwarding sector in West coast Africa, specifically in Angola, Cameroon, DR of Congo, Gabon and Nigeria, with the purpose of identifying such constraints. To this end, the research relied on two theories to provide the scientific foundation, namely the Systems Theory and Dr Eliyahu Goldratt’s Theory of Constraints. Both theories share in common the system concept, which is fundamental to the successful accomplishment of the purpose. Whilst the Systems theory puts emphasis on the relationships between the actors of a system and common goal, the fundamental concept of the constraints theory is about the maximum overall performance of a given system, which is highly dependent on the constraint of that system. The theoretical model generated as a result of merging the two theories, will enable us to view the freight forwarders’ activity as a system, consisting of constituent elements, that are inter-connected through a number of relationships, and that share a common goal, which is what identifies them as belonging to the same system.

Following an in-depth research of previous literature, and regular contacts with a big organisation operating in all five countries at hand, Bourbon Group, we developed the purpose of this research study:

Identify the bottlenecks in the FF sector in Western Africa through the joint application of the Systems Theory and the Theory of Constraints.

Complementary to the accomplishment of the stated purpose, we derived a number of research questions, that read as follows:

- What is the constraint that makes importing/exporting goods to West coast Africa inefficient?
- How can we dismantle Freight Forwarding activity based on a system approach?
- Does it really matter which FF you choose when importing goods into WA?
- Does an improved Freight Forwarder selection method offer solutions to some of the issues addressed by international companies currently involved in export-import activities in Africa?
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- What happens if a constraint cannot be elevated within a FF procedure?

The findings produced by the Analysis highlight a series of important issues closely related to the activity of freight forwarders in West coast Africa. The application of the theoretical model, identified infrastructure as the most common constraint shared by three countries, out of five: Nigeria, Angola and Cameroon. The result adds to previous reports on the impaired state of infrastructure of the African continent in general. One would expect however, that following the growth of the oil industry, and that of raw material export, more emphasis would have been placed on infrastructural investment. However, in order to produce notable differences, as this study finds out, investment on infrastructure alone will not yield long-term, significant results that will be transmitted along the supply chain in the form of time and cost effectiveness.

The research adopted and applied a system approach, with the objective of identifying the relationships between the system components. This would enable the next step of the model, that of adjusting the system for the elevation of the main constraint. Because the strength of a supply chain can only be measured in terms of its weakest link, and its success cannot be determined by one link alone, it is imperative to think of elevation of a constraint, as part of an integral process. The implications of this would be that, the success of the elevation of infrastructure as a constraint, requires for the system to undergo a number of integral reforms. The analysis chapter, based on the collection of extensive data on the state of the identified actors of the system, namely: Customs, infrastructure, capabilities of country in terms of International Shipments, logistics competence of that country, tracking and tracing capabilities, domestic logistics costs, timeliness of shipments, and regulatory environment (reforms), produced the following findings:

- The poor state of infrastructure in Angola, Cameroon and Nigeria results in excessive costs due to long transit times and inflated rates.
- Gabon, makes good use of its Railway * (mention correct name) system in terms of hard infrastructure, which is what differentiates it from the other three countries. This comprises a good example of how basic infrastructure can lead to more efficient domestic logistics.
- The market of transport operators in these countries is not competitive enough to ensure realistic rates, and allow for a large number of operators enter the market. Currently, a small number of transport operators are reported to run the market, who under the government’s protectorate ensure market domination and exclusivity. The latter has inevitably led to inflated transportation rates, reflected in the high domestic logistics costs.
- Such policies of artificial market regulation and government protection for a number of operators, raise the issue of corruption and lack of transparency, which is not limited to the transportation sector alone. The customs, and border agencies are yet another sector, that through overly bureaucratic procedures, are characterised by corruption. Reportedly common practices such as the suitcase businessman, add to lengthy clearance procedures.
- The latter leads to lack of inter-institutional coordination, resulting in both time and cost implications. Considering that the investment in soft infrastructure has been significant, the next step would be more effective utilization of such resources.
- One of the greatest problems, reflected in lengthy clearance procedures, high rates
for import and export, and at least double the average of documents required for import and export, is over-regulation. International financial institutions, such as the World Bank, have suggested reforms to significantly reduce the paperwork required for import/export procedures, the number of days, and the inflated prices.

As a result of the fore-mentioned findings, it is possible to answer an important research question:

- **Does it really matter which FF you choose when importing goods into WA?**

Following careful consideration, we came to the conclusion that, substituting the current Freight Forwarder with another company, will not necessarily result in solution of the problem for reasons that are as follows:

a) The activity of a Freight Forwarder depends on a series of factors that do not depend on the Freight Forwarder per se.
b) Freight Forwarders in order to accomplish their tasks, have access to services that are shared by all providers, and that are beyond their control.

In a non-competitive market in a West coast African country, where the rates are inflated, and the operators are offered government protection and market exclusivity, freight forwarders would not have a great array of choices from where to choose. In addition, the service a freight forwarder would offer to a multinational company, would be to a great extent affected by factors beyond a freight forwarder’s control, such as custom, border, and infrastructure related issues. In such case therefore choosing a freight forwarder over another one, will not solve the problems that exist within the system.

In conclusion, this study identified the bottleneck affecting the activity of freight forwarders in West coast Africa. Following extensive research, it emerges that the bottlenecks (namely infrastructure and international shipments), are on a national level and affect the activity of all freight operators in the country. The study highlighted the importance of reforms, as crucial to improvements in both time and cost terms. Most importantly however, the study focused on the importance of integral reforms; instead of tackling specific links of the supply chain to yield short term results, the reforms will address the main constraints, and adjust the system to support the elevation of the constraints.
8. Scope for future research

Taking into account the significant gap in previous literature in freight forwarders’ activities in general, and in Africa in particular, the study made extensive use of reports published by international bodies and organizations; i.e. the Logistics Performance Index 2008 and, the Doing business report 2009 published by the World Bank Group. In the effort to gather secondary material, we discovered that the topic of Africa in general has not been researched extensively, leading to a limited number of sources a researcher could use. Combined with the subject of freight forwarders, our thesis topic became a challenge on a literature review level.

Considering that supply chain has risen to an academic interest only in the past two decades, intermediaries, and particularly freight forwarders – a link within the supply chain, constitute a significant gap in the research discipline of supply chain management, and logistics.

We believe that there is scope for future research in the field of freight forwarders in general; the time and cost related pressure placed on the activity of freight forwarders, from a supply chain perspective, needs to be looked at more closely. Taking into account the increasing number of integrated supply chains, operating globally, one cannot overlook the importance of fast and efficient operations within the supply chain. The developing countries constitute an interesting research case, considering that supply chain operations do not run as smoothly as they would in a country with seamless soft infrastructure, competitive transportation market, and transparent and trade facilitating regulations. The latter is only but a brief listing of some of the factors that affect the activity of freight forwarders.

The Goal, the book from where we adapted the concept of bottlenecks, describes a situation where by, after the identification of a constraint, changes pursued to restore the system to its most efficient form. However, a second constraint emerged, as a result of the isolated nature of the improvements, focusing solely on the constraint. As previously stated, in a logistics and supply chain management, links are inter-related hence, there is no such a thing as isolated improvement to produce overall benefits. Therefore, to prevent a situation whereby, a second, or an additional constraint emerges, we suggested the implementation of a series of reforms on the constraint itself, and on the system, to support such changes. This highlights some important implications;

First, we refer to constraint as a concept, rather than the ultimate constraint in the given system; therefore there is scope for further research that through field research and observations can produce more specific accounts on bottlenecks in the region at hand.

Second, Goldratt’s Theory of Constraints is primarily used in a manufacturing setting; this study showed how Goldratt’s theory can be applicable to the service industry. We believe
future research could further investigate this new application, and possible adaptations the theory needs for a service context.

Third, the African continent in general has not received much attention in terms of research studies, and the literature available is primarily from international institutions. Further research into the cultural, social, and political implications for supply chain related issues in Africa could fill the research gaps in this field.

This study focused on coastal countries, considering that maritime trade was crucial to the research process. Africa is home to at least 15 landlocked countries, which results in implications on a connectivity, infrastructural, and cost level. Taking into account these differences, and more country specific ones, further research is suggested to investigate the challenges organisations would encounter on a supply chain and logistical level. Based on an extensive literature review, we expect the results to differ considerably compared to those presented in our study.

On a final note, this paper is only a limited expose of the current situation in the West coast of Africa within the freight forwarding sector; further research needs to be conducted in this field to highlight the main players, common selection criteria considered in a selection process, and a comparison between the international freight forwarders and local ones.
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